

Package ‘pgfSweave’

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Type Package

Title Quality speedy graphics compilation and caching with Sweave

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Depends stashR, filehash, highlight, formatR, cacheSweave

Imports digest, tools, utils, tikzDevice, cacheSweave

Enhances optparse

SystemRequirement pgf (≥ 2.10) (<http://sourceforge.net/projects/pgf/>)
for the vignette and for externalization, GNU Make for externalization

Description pgfSweave provides a number of improvements to the speed and quality of Sweave output including: (1) capabilities for ‘caching’ graphics generated with Sweave on top of the caching mechanisms provided by cacheSweave, (2) an interface to the tikzDevice package which provides graphics with consistent font style, sizing and quality as the main document and (3) highlighting of echo’d source code via the highlight package. pgfSweave provides a new driver for Sweave (pgfSweaveDriver) with new chunk options tikz, external, sanitize, highlight and tidy on top of the cache option provided by cacheSweave.

License GPL (≥ 3)

LazyLoad yes

URL <https://r-forge.r-project.org/projects/pgfsweave/>

BugReports <https://github.com/cameronbracken/pgfSweave/issues>

Collate

```
'cacheSweaveUnexportedFunctions.R' 'pgfSweave.R' 'pgfSweaveDriver.R' 'utilities.R' 'zzz.R'
```

Repository CRAN**Date/Publication** 2012-04-02 09:15:28**R topics documented:**

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pgfSweave *Quality speedy graphics compilation and caching for Sweave*

Description

pgfSweave provides a number of improvements to the speed and quality of Sweave output including: (1) capabilities for 'caching' graphics generated with Sweave on top of the caching mechanisms provided by cacheSweave, (2) an interface to the tikzDevice package which provides graphics with consistent font style, sizing and quality as the main document and (3) highlighting of echo'd source code via the highlight package. pgfSweave provides a new driver for Sweave (pgfSweaveDriver) with new chunk options tikz, external, sanitize, highlight and tidy on top of the cache option provided by cacheSweave.

Usage

```
pgfSweave(file, compile.tex = TRUE,
           graphics.only = FALSE, pdf = T,
           syntax = getOption("SweaveSyntax"), np = 2, ...)
```

Arguments

file	A connection or a character string giving the name of the file to load.
compile.tex	If TRUE run LaTeX/pdfLaTeX on the resulting tex file. If FALSE only run Sweave.
graphics.only	If TRUE Only run Sweave and then the commands to externalize graphics, don't call <code>texi2dvi</code> to do the final compilation.
pdf	Passed to <code>texi2dvi</code> . If TRUE (default) then generate a pdf file otherwise generate a dvi file.
syntax	An object of class SweaveSyntax or a character string with its name. The default installation provides SweaveSyntaxNoweb and SweaveSyntaxLatex (passed to Sweave).
np	The number of parallel processes to use for graphics externalization.
...	Other options to be passed to <code>texi2dvi</code>

Details

This package provides new features beyond `cacheSweave`:

1. better recognition of code chunk changes
2. the 'caching' of code chunks which generate graphics and
3. an interface to the `tikzDevice` package for the generation of graphics in which the font matches that of the main document.

The process carried out by `pgfSweave` involves:

- Running Sweave on the `.Rnw` file using `pgfSweaveDriver` function.
- Generating a graphics file from each newly created or changed graphic.
- Running the `pgf` externalization commands for each newly generated graphic (via a makefile).
- Finally running LaTeX with on the `.tex` file using the real job name.

For more details see the **pgfSweave** package vignette.

Value

A pdf file is generated if `compile.tex=TRUE` and a tex file only is generated otherwise.

Note

- The `pgfSweave` package must be installed from source to gain access to the R CMD `pgfsweave` interface.
- Assuming `compile.tex=TRUE` the function will issue any system commands needed to “externalize” the `pgf` graphics. To take advantage of the speedup, set `external=TRUE` on every code chunk that creates a plot.
- the command `\codepgfrealjobnamemyfile` MUST in the header of your LaTeX file for the external graphics capabilities.

Author(s)

Cameron Bracken <cameron.bracken@gmail.com> and Charlie Sharpsteen

References

Sweave manual: <http://www.statistik.lmu.de/~leisch/Sweave/Sweave-manual.pdf>

`cacheSweave` vignette: <http://cran.r-project.org/web/packages/cacheSweave/vignettes/cacheSweave.pdf>

`pgf` manual externalization section: <http://sourceforge.net/projects/pgf/>

See Also

[pgfSweaveDriver](#), [Sweave](#), [tikzDevice](#) [cacheSweave](#)

Examples

```

## Not run: vignette("pgfSweave")

## Not run:
library(pgfsweave)
oldcwd <- getwd()
dir <- tempdir()
setwd(dir)
file.copy(system.file("example", "pgfSweave-example.Rnw", package = "pgfSweave"), dir)
file <- file.path(dir, "pgfSweave-example.Rnw")
pgfSweave(file, compile.tex=FALSE)
setwd(oldcwd)

## End(Not run)

## Not run:
## Normally to compile to PDF by
#   pgfSweave("pgfSweave-example.Rnw")
# Default as of version 1.2 is pdf=T
#
# or use
#
# R CMD pgfsweave pgfSweave-example.Rnw
## From the command line which calls texi2dvi (default uses pdflatex)
#
## NOTE: LaTeX may not be included in your path by default when using the R
## GUI, please see the FAQ in the pgfSweave vignette if your latex or pdflatex
## are not found.

## Use pgfSweave outside of R with the script provided in the pgfSweave exec/ directory

## End(Not run)

```

pgfSweaveSetup

The Sweave driver for pgfSweave

Description

An Sweave driver for caching code chunks and image files making for speedy compilation.

Usage

```

pgfSweaveSetup(file, syntax, output = NULL,
  quiet = FALSE, debug = FALSE, echo = TRUE, eval = TRUE,
  split = FALSE, stylepath = TRUE, pdf = FALSE,
  eps = FALSE, cache = FALSE, pgf = FALSE, tikz = TRUE,
  external = FALSE, sanitize = FALSE, highlight = TRUE,
  tidy = FALSE, concordance = FALSE, figs.only = TRUE)

```

Arguments

file	A connection or a character string giving the name of the Sweave file to load.
syntax	See RweaveLatex
output	See RweaveLatex
quiet	See RweaveLatex
debug	See RweaveLatex
echo	See RweaveLatex
eval	See RweaveLatex
split	See RweaveLatex
stylepath	See RweaveLatex
pdf	See RweaveLatex . Note the default is changed to FALSE
eps	See RweaveLatex . Note the default is changed to FALSE
cache	See cacheSweaveDriver
tikz	Set default for option tikz, see details below.
pgf	Set default for option pgf, see details below.
external	Set default for option external, see details below.
sanitize	Set default for option sanitize, see details below.
highlight	Should echo'd code be highlighted with the highlight package.
tidy	Should echo'd code be cleaned up with the tidy.source function from the formatR package.
concordance	RweaveLatex
figs.only	RweaveLatex

Details

To only compile an Rnw to a tex file, `pgfSweaveDriver` should be used as the driver option to [Sweave](#). Otherwise use the [pgfSweave](#) function for a simple way to compile to pdf.

Value

Nothing useful returned.

Note

- For `myfile.Rnw`, Make sure to call the command `\codepgfrealjobnamemyfile` in the LaTeX header.
- Calling [pgfSweave](#) with `compile.tex=FALSE` is equivalent to directly calling `Sweave`.
- To obtain the speedup from using `pgf` external graphics be sure to set `external=TRUE` on all code chunks which generate a plot. The default code options for the driver are `pdf=FALSE`, `eps=FALSE`, `tikz=TRUE`, `pgf=FALSE`, `external=FALSE`.

Author(s)

Cameron Bracken <cameron.bracken@gmail.com> and Charlie Sharpsteen

References

Sweave manual: <http://www.statistik.lmu.de/~leisch/Sweave/Sweave-manual.pdf>
cacheSweave vignette: <http://cran.r-project.org/web/packages/cacheSweave/vignettes/cacheSweave.pdf>

See Also

[pgfSweave](#), [pgfSweaveDriver](#), [cacheSweave](#), [Sweave](#), [tikzDevice highlight](#)

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