Package ‘rde’

July 2, 2018

Title   Reproducible Data Embedding
Version 0.1.0
Description Allows caching of raw data directly in R code. This allows R scripts and R Notebooks to be shared and re-run on a machine without access to the original data. Cached data is encoded into an ASCII string that can be pasted into R code. When the code is run, the data is automatically loaded from the cached version if the original data file is unavailable. Works best for small datasets (a few hundred observations).

Depends R (>= 3.1)
Imports clipr
License GPL-3
Encoding UTF-8
LazyData true
Suggests testthat, knitr, lintr, rmarkdown, spelling
VignetteBuilder knitr
RoxygenNote 6.0.1
Language en-US
SystemRequirements xclip (https://github.com/astrand/xclip) or xsel (http://www.vergenet.net/~conrad/software/xsel/) for accessing the X11 clipboard

URL https://github.com/kloppen/rde

BugReports https://github.com/kloppen/rde/issues

NeedsCompilation no
Author Stefan Kloppenborg [aut, cre]
Maintainer Stefan Kloppenborg <stefan@kloppenborg.ca>
Repository CRAN
Date/Publication 2018-07-02 08:50:06 UTC
**R topics documented:**

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>copy_rde_var</td>
<td>Encode, compress and copy data into the clipboard</td>
</tr>
</tbody>
</table>

**Description**

`copy_rde_var` is intended to work with `load_rde_var`. The normal workflow would use `copy_rde_var` to copy a variable to the clipboard and then paste it in to the third argument of `load_rde_var`.

**Usage**

```r
copy_rde_var(var, line.width = 80L, no.clipboard = FALSE)
```

**Arguments**

- **var**: the variable to copy
- **line.width**: the desired width of lines of text (-1 for no line breaks)
- **no.clipboard**: the default is `FALSE`. Indicates that you want the function to return the string that would have been copied to the clipboard without actually copying to the clipboard. This option is mainly used for testing purposes. Normal users will not use it.

**Details**

The variable in the argument `var` is first saved using `saveRDS`. Then the saved variable is compressed using bzip2 compression. Next, the compressed data is base 64 encoded into a character string. Next, that string is prepended with a code that indicates the version of this package. The prepended code (currently ‘rde1’ allows for future changes while providing backwards compatibility). Finally, the string is optionally broken up into lines of width `line.width`. Whitespace and line breaks are ignored by `load_rde_var`.

On X11 systems (e.g. Linux), external software is required in order to access the clipboard. Either ‘xsel’ or ‘xclip’ is required. Installation of this software will depend on the installation that you use, but on Ubuntu/Debian, ‘sudo apt-get install xsel’ will probably work.

On Windows and OSX, no additional software is required.

**Value**

None (or string if `no.clipboard=TRUE`)
Examples

`copy_rde_var(iris)`

---

**load_rde_var**

*Load data in a reproducible way that allows for exchange of code*

---

**Description**

`load_rde_var` attempts to execute the code in `load.fcn`. If that succeeds, then the return value of that code is returned by `load_rde_var`. Otherwise, the value stored in cache is returned. `cache` must contain an encoded copy of the value produced by the function `copy_rde_var`. Optionally, you can force the use of the cached data by setting `use.cache = TRUE`.

**Usage**

`load_rde_var(use.cache = FALSE, load.fcn, cache)`

**Arguments**

- `use.cache`: boolean to force the use of cached data
- `load.fcn`: code to load the data from its original source
- `cache`: a cached copy of the data

**Details**

This package is intended for small datasets. A copy of the data is encoded as a string (using base64 encoding, after compressing the data) and that string is copied into your code. Even though the data is compressed, the encoded string can still be quite long. If your data is more than a few hundred observations, this package probably isn’t for you.

`load.fcn` must contain executable R code. Unless that code is a single expression, normally it would be enclosed in a pair of braces.

`cache` must be a string that was originally produced by `copy_rde_var`. See the documentation for that function for more details about the format of this string.

If the code in `load.fcn` fails, then a message is produced to indicate that the failure and the data encoded in cache is returned instead. This would occur if you share your code with someone who does not have access to the data that you're loading in your code.

If `use.cache = TRUE`, the code in `load.fcn` is ignored and the data is loaded from the encoded string `cache`. This can be useful if it takes a very long time obtain the data and you re-run your code often.

If the value produced by the code in `load.fcn` does not match the value encoded in `cache`, then a warning is produced to indicate that there is a mismatch.
Value

The data, either loaded using load.fcn, if possible, or from cache if that fails.

See Also

copy_rde_var

Examples

load_rde_var(use.cache = FALSE, {
  head(iris, 3)
}, "
  rde1Qlp0TFBKSZTwbG0254AAKT/5P//XAAAAAAwARIwC/n3YBAAAACYFAbAA7IhKIm
  lPaU3oaRqekyaDTQNPJPImHdAaA8AAAGmg0A0AaabIOkNGgAAAAANMYUzuJyxRYYJWNNsC1
  tgcппLFvZTHhARK1KFQ1z25bNBCC+0pWHkGEnGEzpVaihSiITBL2j6RRFchjamGBFpBMwN
  bAHzwEGosCEGYBozHPFUVjGcDz3qu9p4cb8rVvJFMrR553biWfD0nTnyJDJh0iMiopionY
  1fqlFwK/IvzuBiS0muzN6tpp7jWrW4upNNGDi1L2E9T6iY2RFqabo9/r9oI6pYlDvVFP
  ISLqVP4uS1pwoSFJHbc8A=
"
Index

copy_rde_var, 2, 3, 4
load_rde_var, 2, 3
saveRDS, 2