Package 'cleancall'

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Title C Resource Cleanup via Exit Handlers

Version 0.1.1

Description Wrapper of .Call() that runs exit handlers to clean up C resources. Helps managing C (non-R) resources while using the R API.

URL https://github.com/r-lib/cleancall#readme

BugReports https://github.com/r-lib/cleancall/issues

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Suggests covr, testthat

Depends R (>= 3.1)

NeedsCompilation yes

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R topics documented:

cleancall-package *cleancall: C Resource Cleanup via Exit Handlers*

Description

Wrapper of .Call() that runs exit handlers to clean up C resources. Helps managing C (non-R) resources while using the R API.

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See Also

Useful links:

- https://github.com/r-lib/cleancall#readme
- Report bugs at https://github.com/r-lib/cleancall/issues

call_with_cleanup *Call a native routine within an exit context*

Description

C functions called this way can call the `r_call_on_exit()` and/or `r_call_on_early_exit()` functions to establish exit handlers.

Usage

```
call_with_cleanup(ptr, ...)
```

Arguments

`ptr`	A native pointer object.
`...`	Arguments for the native routine.
	Handlers installed via `r_call_on_exit()` are always executed on exit. Handlers installed via `r_call_on_early_exit()` are only executed on early exit, i.e. *not* on normal termination.

C API

- `void r_call_on_exit(void (*fn)(void* data),void *data)`

  Push an exit handler to the stack. This exit handler is always executed, i.e. both on normal and early exits.

  Exit handlers are executed right after the function called from `call_with_cleanup()` exits. (Or the function used in `r_with_cleanup_context()`, if the cleanup context was established from C.)

  Exit handlers are executed in reverse order (last in is first out, LIFO). Exit handlers pushed with `r_call_on_exit()` and `r_call_on_early_exit()` share the same stack.

  Best practice is to use this function immediately after acquiring a resource, with the appropriate cleanup function for that resource.

- `void r_call_on_early_exit(void (*fn)(void* data),void *data)`

  Push an exit handler to the stack. This exit handler is only executed on early exists, *not* on normal termination.

  Exit handlers are executed right after the function called from `call_with_cleanup()` exits. (Or the function used in `r_with_cleanup_context()`, if the cleanup context was established from C.)

  Exit handlers are executed in reverse order (last in is first out, LIFO). Exit handlers pushed with `r_call_on_exit()` and `r_call_on_early_exit()` share the same stack.

  Best practice is to use this function immediately after acquiring a resource, with the appropriate cleanup function for that resource.

- `SEXP r_with_cleanup_context(SEXP (*fn)(void* data),void* data)`

  Establish a cleanup stack and call `fn` with `data`. This function can be used to establish a cleanup stack from C code.

See Also

The package README file.

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