Package: beachmat.hdf5 (via r-universe)

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Version 1.3.1

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Title beachmat bindings for HDF5-backed matrices

Description Extends beachmat to support initialization of tatami matrices from HDF5-backed arrays. This allows C++ code in downstream packages to directly call the HDF5 C/C++ library to access array data, without the need for block processing via DelayedArray. Some utilities are also provided for direct creation of an in-memory tatami matrix from a HDF5 file.

Encoding UTF-8

Imports methods, beachmat, HDF5Array, DelayedArray, Rcpp

Suggests testthat, BiocStyle, knitr, rmarkdown, rhdf5, Matrix

LinkingTo Rcpp, beachmat, Rhdf5lib

biocViews DataRepresentation, DataImport, Infrastructure

License GPL-3

NeedsCompilation yes

VignetteBuilder knitr

SystemRequirements C++17, GNU make

RoxygenNote 7.3.1

Repository https://bioc.r-universe.dev

RemoteUrl https://github.com/bioc/beachmat.hdf5

RemoteRef HEAD

RemoteSha 1cc494d4e48a6f1b224e5af7d20667e44640c1e8

Contents

`initializeCpp` *Initialize HDF5-backed matrices.*

Description

Initialize C++ representations of HDF5-backed matrices based on their **HDF5Array** representations.

Usage

```
## S4 method for signature 'H5SparseMatrixSeed'
initializeCpp(x, ..., memorize = FALSE)

## S4 method for signature 'HDF5ArraySeed'
initializeCpp(x, ..., memorize = FALSE)
```

Arguments

`x`	A **HDF5Array** seed object.
`...`	Further arguments, ignored.
`memorize`	Logical scalar specifying whether to load the matrix data in `x` into memory, if it has not already been loaded. See `checkMemoryCache` for details.

Value

An external pointer that can be used in any **tatami**-compatible function.

Author(s)

Aaron Lun

Examples

```
library(HDF5Array)
y <- matrix(runif(1000), ncol=20, nrow=50)
z <- as(y, "HDF5Array")
ptr <- initializeCpp(z)
```

`loadIntoMemory` *Load a HDF5 matrix into memory*

Description

Load a HDF5-backed matrix into memory as an external pointer to a **tatami**-compatible representation. This differs from the (default) behavior of `initializeCpp`, which only loads slices of the matrix on request.

Usage

```
loadIntoMemory(x, force.integer = FALSE)
```

Arguments

`x`	A **HDF5Array**-derived matrix or seed object.
`force.integer`	Whether to force floating-point values to be integers to reduce memory consumption.

Value

An external pointer that can be used in **tatami**-based functions.

Author(s)

Aaron Lun

Examples

```
library(HDF5Array)
y <- matrix(runif(1000), ncol=20, nrow=50)
z <- as(y, "HDF5Array")
ptr <- loadIntoMemory(z)
```

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