Write to a FAME database from R

```r
library(qoma.smuggler)
library(rhli)

if(!open_hli())knitr::knit_exit()
```

```
Linux 4.9.0-4-amd64 #1 SMP Debian 4.9.65-3+deb9u1 (2017-12-23) GNU/Linux

R version 3.5.0 (2018-04-23)
Joy in Playing
x86_64-redhat-linux-gnu

lubridate       1.7.4
qoma.smuggler   0.0.1
rhli            0.0.2.9000
tibble          1.4.2
FAME HLI        11.63000
```

Use FAME HLI monthly frequency constant `HMONTH` and FAME date literals "18m1" and "18m2" — abbreviations for the first and twelfth month of the year 2018.

```r
rng <- to_fame_range(HMONTH,"18m1","18m12")
rng
```

```
[1]  129 2017 2028
```

Convert a FAME date range `rng` to a *lubridate* index.

```r
tbl <- to_lubridate_index(rng)
tbl
```

```
# A tibble: 12 x 1
   date
   <date>
 1 2018-01-31
 2 2018-02-28
 3 2018-03-31
 4 2018-04-30
 5 2018-05-31
 6 2018-06-30
 7 2018-07-31
 8 2018-08-31
 9 2018-09-30
10 2018-10-31
11 2018-11-30
12 2018-12-31
```

Generate some normal variates in R, add to the tibble as column 'x'.

```r
nobs <- rng[3]-rng[2]+1
tbl['x'] <- rnorm(nobs)
tbl
```

```
# A tibble: 12 x 2
   date            x
```

```
    <date>        <dbl>
 1 2018-01-31  0.617
 2 2018-02-28 -1.99
 3 2018-03-31  1.50
 4 2018-04-30  0.469
 5 2018-05-31  1.23
 6 2018-06-30 -1.57
 7 2018-07-31  1.30
 8 2018-08-31  0.350
 9 2018-09-30 -1.62
10 2018-10-31  1.97
11 2018-11-30  0.0856
12 2018-12-31 -0.249
```

Setup a *qoma.smuggler* `List` structure to hold the data.

See what it looks like with the `print_catalog()` function.

```r
mydb <- List() # mutable list
entry <- newEntry( # entry with data and FAME metadata
  tbl$x,
  desc = "N(0,1)",
  docu = "R generated N(0,1) time series.",
  range = rng,
  obse = rhli::HOBSUM
  )
mydb$put('x',entry)
print_catalog(mydb)
```

```
SERIES x : PRECISION BY DATE(MONTHLY) Jan2018 to Dec2018
N(0,1)
-
R generated N(0,1) time series.
```

```r
mydb$get('x')
```

```
$data
 [1]  0.61735344 -1.99073681  1.50404670  0.46860043  1.23461637
 [6] -1.57339294  1.30377728  0.34979369 -1.61617867  1.96856756
[11]  0.08559802 -0.24882059

$meta
$meta$desc
[1] "N(0,1)"

$meta$docu
[1] "R generated N(0,1) time series."

$meta$class
[1] 1

$meta$range
[1]   129 2017 2028

$meta$basis
[1] 2
```

```
$meta$observ
[1] 4

$meta$type
[1] 5
```

Write the contents of the *qoma.smuggler* `List` to a FAME database.

```
dbfile <- file.path(tempdir(),"tmp.db")
write_fame(dbfile,mydb)
```

```
write_fame() stored 1 objects in /tmp/Rtmp13ilKM/tmp.db
```

```
[1] TRUE
```

Use 4GL to peek at data in FAME.

```
txtfile <- file.path(tempdir(),"tmp.txt")
cmd <- rhli::Character(paste(
  "open<acc read>\"",dbfile,"\" as db;",
  "output<acc over>\"",txtfile,"\";",
  "cata db;",
  "whats x;",
  "disp x;",
  "output terminal;",
  "close db;",
  sep=""))
rhli::cfmfame(rhli::Integer(-1), cmd)
cat(readLines(txtfile), sep = '\n')
```

```
                               DB

                   /tmp/Rtmp13ilKM/tmp.db

 Created:  20-Aug-18                              Updated:  20-Aug-18


                            --------
                            Contents


X -- SERIES (PRECISION by DATE:MONTHLY)
 N(0,1)


                           ----------
                           Statistics



 Total number of series:    1


                               X

                            N(0,1)

 Class:  SERIES                              DB name:  DB
```

```
Type:    PRECISION                          Created:  20-Aug-18
Index:   DATE:MONTHLY                        Updated:  20-Aug-18

First Value at: Jan 18                       Observed: SUMMED
Last Value at:  Dec 18                       Basis:    BUSINESS

R generated N(0,1) time series.

X    N(0,1)

Jan 18      0.62
Feb 18     -1.99
Mar 18      1.50
Apr 18      0.47
May 18      1.23
Jun 18     -1.57
Jul 18      1.30
Aug 18      0.35
Sep 18     -1.62
Oct 18      1.97
Nov 18      0.09
Dec 18     -0.25
```

```r
close_hli()
```

```
[1] TRUE
```

```r
file.remove(dbfile)
```

```
[1] TRUE
```

```r
file.remove(txtfile)
```

```
[1] TRUE
```