Write to a FAME database from 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
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.

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

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

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

```
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'.

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

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

```
   <date>       <dbl>
 1 2018-01-31 -0.873
 2 2018-02-28 -0.309
 3 2018-03-31 -0.257
 4 2018-04-30 -1.21
 5 2018-05-31  0.988
 6 2018-06-30  2.83
 7 2018-07-31  1.36
 8 2018-08-31 -0.534
 9 2018-09-30 -0.167
10 2018-10-31  0.495
11 2018-11-30  0.0340
12 2018-12-31  0.321
```

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

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

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

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

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

```
$data
 [1] -0.87331595 -0.30860340 -0.25709988 -1.20915766  0.98770008
 [6]  2.82714488  1.36326799 -0.53379928 -0.16704689  0.49504518
[11]  0.03401801  0.32135338

$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.

```
write_fame("mydb",mydb)
```

```
write_fame() stored 1 objects in mydb
```

```
[1] TRUE
```

Use 4GL to peek at data in FAME.

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

```
                                MYDB

          /home/kk7680/git/r-smuggler/inst/examples/mydb.db

Created:  17-Aug-18                                 Updated:  17-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:  MYDB
Type:   PRECISION                                   Created:  17-Aug-18
```

```
Index:  DATE:MONTHLY                          Updated:  17-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     -0.87
Feb 18     -0.31
Mar 18     -0.26
Apr 18     -1.21
May 18      0.99
Jun 18      2.83
Jul 18      1.36
Aug 18     -0.53
Sep 18     -0.17
Oct 18      0.50
Nov 18      0.03
Dec 18      0.32
```

```
close_hli()
```

```
[1] TRUE
```

```
file.remove("mydb.db")
```

```
[1] TRUE
```

```
file.remove("tmp.txt")
```

```
[1] TRUE
```