5_Example_WriteFAMEdatabase

August 18, 2018

```
In [1]: import os
        import sys
        from __future__ import print_function


        import numpy as np
        import pandas as pd
        from pyhli import *
        import qoma_smuggler as qm
```

The Qoma utility function `open_hli()` opens the FAME environment and prints diagnostic information.

```
In [2]: if qm.open_hli()!=0:
            raise
```

```
Linux 4.9.0-4-amd64 (#1 SMP Debian 4.9.65-3+deb9u1 (2017-12-23)) x86_64
Python 3.6.5 | packaged by conda-forge | (default, Apr  6 2018, 13:39:56)
[GCC 4.8.2 20140120 (Red Hat 4.8.2-15)]
NumPy 1.13.3 Pandas 0.23.4 FAME HLI 11.63000 pyhli 0.0.11 qoma-smuggler 0.0.2
```

Create a time series with five hourly observations starting midnight January 1st, 2020:

```
In [3]: rng = pd.date_range('1/1/2020', periods=5, freq='D')
        ts = pd.Series(np.random.randn(len(rng)), index=rng)
```

Create a Python dictionary, and place the time series in the dictionary with key 'TS'.

```
In [4]: db_dict = dict()
        qm.put(db_dict,'TS',ts)
```

Take a peek at the Python dictionary contents, then write the contents of the Python dictionary to a FAME database.

```
In [5]: qm.print_catalog(db_dict)
        qm.write_fame("mydb",db_dict)
```

```
SERIES TS : PRECISION BY DATE(DAILY) 1Jan2020 to 5Jan2020
```

Display the series using Python.

```
In [6]: print(db_dict['TS'])
```

```
{'data': 2020-01-01    1.250038
2020-01-02   -0.902067
2020-01-03    0.772241
2020-01-04   -0.685237
2020-01-05    0.769382
Freq: D, dtype: float64, 'fame': {'range': [8, 62092, 62096], 'class': 1, 'type': 5, 'basis': 1
```

Display the series using FAME 4GL.

```
In [7]: cmd = ['\
          open<acc read> mydb; \
          output<acc over> mydb.txt; \
          whats ts;\
          display ts;\
          ']
        cfmfame ([-1], cmd)
        qm.print_file('mydb.txt')
```

```
                                    TS

Class:  SERIES                                  DB name:  MYDB
Type:   PRECISION                               Created:  18-Aug-18
Index:  DATE:DAILY                              Updated:  18-Aug-18

First Value at:  1-Jan-20                       Observed: END
Last Value at:   5-Jan-20                       Basis:    BUSINESS

TS

 1-Jan-20      1.25
 2-Jan-20     -0.90
 3-Jan-20      0.77
 4-Jan-20     -0.69
 5-Jan-20      0.77
```

The Qoma utility function `close_hli()` closes the FAME environment.

```
In [8]: if qm.close_hli()!=0:
            raise
```

```
In [9]: os.remove("mydb.txt")
        os.remove("mydb.db")
```