PL/Python goodies

Jan Urbański
wulczer@wulczer.org
ducksboard.com

May 19, 2011 04:03 AM
Recoverable database errors

Jan Urbański  wulczer@wulczer.org (ducks)

PL/Python goodies  May 19, 2011 04:03 AM  2 / 13
Recoverable database errors

BEFORE

credit: gadgetdan
Recoverable database errors

BEFORE

credit: gadgetdan

AFTER

credit: VinothChandar
Recoverable database errors

- errors from executing SQL no longer terminate the function
Recoverable database errors

- errors from executing SQL no longer terminate the function
- use normal try/catch/finally blocks to manage database errors
Recoverable database errors

- errors from executing SQL no longer terminate the function
- use normal try/catch/finally blocks to manage database errors
- inspect caught errors to get SQLSTATE
from plpy import spiexceptions

while True:
    res = plpy.execute("update db set b = %s where a = %d" % ( plpy.quote_nullable(data), key ))
    if res.nrows():
        break

try:
    plpy.execute("insert into db(a, b) values (%d, %s)" % (key, plpy.quote_nullable(data)))
    break
except spiexceptions.UniqueViolation:
    pass
Explicit subtransactions
Explicit subtransactions

credit: Idaho National Laboratory
Explicit subtransactions

- execute several database calls atomically
Explicit subtransactions

- execute several database calls atomically
- comfortable with syntax

plpy.subtransaction():
- plpy.execute("insert into this values ('that')")
- plpy.execute("insert into this values ('other')")
- plpy.execute("insert into this values ('another')")
Explicit subtransactions

- execute several database calls atomically
- comfortable with syntax

```python
with plpy.subtransaction():
    plpy.execute("insert into this values ('that')")
    plpy.execute("insert into this values ('other')")
    plpy.execute("insert into this values ('another')")
```
Tracebacks

BEFORE

credit: Peter Ward

AFTER

Jan Urbański  wulczer@wulczer.org (ducks)

PL/Python goodies

May 19, 2011 04:03 AM 7 / 13
Tracebacks

BEFORE

credit: Peter Ward
Tracebacks

BEFORE

credit: Peter Ward

AFTER

Bug
150 m
closely mimicking Python’s tracebacks
Tracebacks

- closely mimicking Python’s tracebacks
- very useful when tracking down typos in large functions
Tracebacks

closely mimicking Python’s tracebacks
very useful when tracking down typos in large functions
only lines from the PL/Python function, but line numbers from all modules
Functions returning tables
credit: Silk Road Collections
in 8.4 PL/Python got support for one OUT parameter in a function
Functions returning tables

- in 8.4 PL/Python got support for one OUT parameter in a function
- in 9.1 you can have multiple
Hstore to dictionary converter
Hstore to dictionary converter

BEFORE

credit: HB Art
Hstore to dictionary converter

BEFORE

credit: HB Art

AFTER

credit: Muffet
Hstore to dictionary converter

- did not get into 9.1
Hstore to dictionary converter

- did not get into 9.1
- currently implemented as a Python extension module

Jan Urbański
wulczer@wulczer.org

May 19, 2011 04:03 AM
Hstore to dictionary converter

- did not get into 9.1
- currently implemented as a Python extension module
- uses hstore’s I/O functions to transform dicts to and from hstores

https://github.com/wulczer/pyhstore

Jan Urbański wulczer@wulczer.org (ducks)
Hstore to dictionary converter

- did not get into 9.1
- currently implemented as a Python extension module
- uses hstore’s I/O functions to transform dicts to and from hstores
- is very bad!
Hstore to dictionary converter

- did not get into 9.1
- currently implemented as a Python extension module
- uses hstore’s I/O functions to transform dicts to and from hstores
- is very bad!
- https://github.com/wulczer/pyhstore
Thanks!