Python Programming

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Chapter 13

Database Connection - MySQL

Topics Covering

- mysql-connector-python
- connection object
- cursor
- iterating cursor
- Exception handling - revisited

In [3]:

```python
import mysql.connector


conn    = mysql.connector.connect(user     = 'naren',
                                  password = 'Python@7',
                                  host     = '127.0.0.1',
                                  database = 'mytest')

cursor = conn.cursor()

query  = "select * from sample_table2 limit 5"

cursor.execute(query)

for a, b, c, d, e in cursor:
    print a, b, c, d, e

cursor.close()
conn.close()
```

```
0.95067171349 -0.255742244583 0.104238307031 -2.37669464209 -0.3266362
26453
1.30101495673 0.237095434048 2.34642152692 3.1612504504 0.899186769979
0.816793148841 0.396072798131 0.926476600053 -0.586295992657 1.1670524
4844
-0.981288875904 0.25705950676 -0.998227204388 -1.32268117711 0.7122999
64362
-0.296285536526 -0.143377991484 -0.40121321004 -0.532514104955 -1.2331
7181883
```

In [6]:

```python
import datetime
import mysql.connector
from mysql.connector import errorcode
emp_list = []
class Employee(object):
    def __init__(self, _id, _dob, _fname, _lname, _sex, _hdate):
        self.empId = _id
        self.dob = _dob
        self.firstName = _fname
        self.lastName = _lname
        self.gender = _sex
        self.hireDate = _hdate
    def __str__(self):
        return '{}, {}, {}, {}, {}, {}'.format(self.empId, self.dob,
                                                self.firstName, self.lastName,
                                                self.gender, self.hireDate)
    def __repr__(self):
        return 'Employee({}, {}, {}, {}, {}, {})'.format(self.empId, self.dob,
                                                self.firstName, self.lastName,
                                                self.gender, self.hireDate)
if __name__ == '__main__':
    try:
        conn    = mysql.connector.connect(user    = 'naren',
                                        password = 'Python@7',
                                        host    = '127.0.0.1',
                                        database = 'employees')

        query   = "select * from employees limit 100"
        cursor = conn.cursor()
        cursor.execute(query)
        emp_list = []

        for rec in cursor:
            emp_list.append(Employee(*rec))

    except mysql.connector.Error as err:

        if err.errno == errorcode.ER_ACCESS_DENIED_ERROR:
            print("Name or password error! :( ")
        elif err.errno == errorcode.ER_BAD_DB_ERROR:
            print("Database doesn't exist!")
        else:
            print(err)

    else:
        cursor.close()
        conn.close()

    finally:
        print('Transaction backup has been taken successfully!')
        print('Shutting down the system')
```

```
Transaction backup has been taken successfully!
Shutting down the system
```

In [7]:

```
max(emp_list, key=lambda x: x.dob)
```

Out[7]:

```
Employee(10095, 1965-01-03, Hilari, Morton, M, 1986-07-15)
```

In [8]:

```
sorted(emp_list, key=lambda x: x.hireDate)[:20]
```

Out[8]:

```
[Employee(10009, 1952-04-19, Sumant, Peac, F, 1985-02-18),
 Employee(10048, 1963-07-11, Florian, Syrotiuk, M, 1985-02-24),
 Employee(10098, 1961-09-23, Sreekrishna, Servieres, F, 1985-05-13),
 Employee(10076, 1952-06-13, Erez, Ritzmann, F, 1985-07-09),
 Employee(10061, 1962-10-19, Tse, Herber, M, 1985-09-17),
 Employee(10070, 1955-08-20, Reuven, Garigliano, M, 1985-10-14),
 Employee(10013, 1963-06-07, Eberhardt, Terkki, M, 1985-10-20),
 Employee(10080, 1957-12-03, Premal, Baek, M, 1985-11-19),
 Employee(10029, 1956-12-13, Otmar, Herbst, M, 1985-11-20),
 Employee(10064, 1959-04-07, Udi, Jansch, M, 1985-11-20),
 Employee(10002, 1964-06-02, Bezalel, Simmel, F, 1985-11-21),
 Employee(10053, 1954-09-13, Sanjiv, Zschoche, F, 1986-02-04),
 Employee(10066, 1952-11-13, Kwee, Schusler, M, 1986-02-26),
 Employee(10090, 1961-05-30, Kendra, Hofting, M, 1986-03-14),
 Employee(10079, 1961-10-05, Kshitij, Gils, F, 1986-03-27),
 Employee(10001, 1953-09-02, Georgi, Facello, M, 1986-06-26),
 Employee(10095, 1965-01-03, Hilari, Morton, M, 1986-07-15),
 Employee(10089, 1963-03-21, Sudharsan, Flasterstein, F, 1986-08-12),
 Employee(10003, 1959-12-03, Parto, Bamford, M, 1986-08-28),
 Employee(10087, 1959-07-23, Xinglin, Eugenio, F, 1986-09-08)]
```