

Database System Labs

- Project I:

Filesystem To DataBase I (basic)

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OBJECTIVES

- Store the info of file system to relational database
 - The structure information of file system
 - Get the structure information of file system
 - Store the info of file system to DB
 - Retrieve the tree info of file system from DB

THE STRUCTURE INFORMATION OF FILE SYSTEM

```
tea
├── aclocal.m4
├── configure
├── configure.ac
├── doc
│   └── sqlite3.n
├── generic
│   └── tclsqlite3.c
├── license.terms
├── Makefile.in
├── pkgIndex.tcl.in
├── README
├── tclconfig
│   ├── install-sh
│   └── tcl.m4
└── win
    ├── makefile.vc
    ├── nmakehlp.c
    └── rules.vc

4 directories, 14 files
```

GET THE STRUCTURE INFORMATION OF FILE SYSTEM USING PYTHON

```
import os
```

```
rootDir='/etc/network'
```

```
for (dirName, dirs, files) in os.walk(rootDir):
```

```
    for fileName in files:
```

```
        filePath = os.path.join(dirName, fileName)
```

```
        parentFileName=os.path.basename(dirName)
```

```
        print(fileName,':',parentFileName,':',os.path.getsize(filePath))
```

```
    for dir in dirs:
```

```
        print(dir)
```

```
print('exit')
```

©LXD

TEST CASE

- Sqlite

- <http://www.sqlite.org/2018/sqlite-autoconf-3230100.tar.gz>
- tar xvzf sqlite-autoconf-3230100.tar.gz

```
---README.txt : 3558
---Replace.cs : 7272
---Makefile.am : 828
---sqlite3.1 : 8928
    |---pkgIndex.tcl.in : 167
    |---license.terms : 257
    |---configure.ac : 8308
    |---Makefile.in : 15902
    |---configure : 280772
    |---README : 1338
    |---aclocal.m4 : 147
        |---tclsqlite3.c : 117731
    |---generic:1
        |---sqlite3.n : 494
    |---doc:1
        |---rules.vc : 18743
        |---nmakehlp.c : 17368
        |---makefile.vc : 13830
    |---win:3
        |---tcl.m4 : 134055
        |---install-sh : 13868
    |---tclconfig:2
---tea:18
Total Dirs:5    Total Files:37
```

```
#!/usr/bin/python
```

```
import sys
```

```
import mysql.connector
```

```
#mysql config
```

```
config = {
```

```
    'host': 'localhost',
```

```
    'user': 'myuser',
```

```
    'password': 'mypwd',
```

```
    'port': 3306,
```

```
    'database': 'dbsclab2018',
```

```
    'charset': 'utf8'
```

```
}
```

STORE THE INFO OF FILE SYSTEM TO DB 1/2

```
try:
```

```
    cnn = mysql.connector.connect(**config)
```

```
except mysql.connector.Error as e:
```

```
    cnn = None
```

```
    print('connect fails!{}'.format(e))
```

```
if None==cnn:
```

```
    sys.exit()
```

```
cursor = cnn.cursor()
sql= 'SELECT name,dept_name,salary from instructor'
try:
    cursor.execute(sql)
    # display the result
    for name,dept_name,salary in cursor:
        print(name.decode('utf-8'),' ',dept_name,salary)
except mysql.connector.Error as e:
    print('query error!{}'.format(e))
finally:
    cursor.close()
    cnn.close()
```

STORE THE INFO OF
FILE SYSTEM TO DB
2/2

QUIZ

RETRIEVE THE TREE INFO OF FILE SYSTEM FROM DB

- Display the structure of tables
- Display the tree of specified directory
 - File size
 - Subdir count

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