

RDFS

RDFS is a un*x file system based on the relational database MySQL.

Dependencies

Python3

- mysql-connector

MySQL

- user "root"
- password "ece651db"
- database "ece656project"

Run

MySQL

Create database and tables

```
source ./createTable.sql
```

Shell

Run the shell

```
python3 rdns.py
```

Commands

pwd

print working directory

```
pwd
```

cd

Change directory

```
cd directory
```

ls

list files and directories in the working directory.

```
ls [-l]
```

find

Accept the path to a directory and (partial) name of the file. Search the file in the directory and all its subdirectories to the lowest level.

```
find path_to_directory (partial)filename
```

grep

Accept the (partial) name of the file and seek the relevant pattern (regular expression) in the matching file(s). Output the line number and line for the matching lines.

```
grep pattern (partial)filename
```

show PATH

Show all directories in the PATH variable.

```
show PATH
```

export PATH

Add a directory into the PATH variable

```
export PATH path_to_directory
```

remove PATH

Remove a directory from the PATH variable

```
remove PATH path_to_directory
```

run executable

Accept the name of the executable file that is in the PATH variable.

```
executable_filename
```

Running example

```
jiahao@Jiahaos-MacBook-Pro Unix-File-System-Based-on-MYSQL % python3
rdbsh.py
/Library/Python/3.7 $ importdata
Succeed to import data from directory: /Library/Python/3.7
/Library/Python/3.7 $ ls
.
..
site-packages
test
/Library/Python/3.7 $ ls -l
drwxr-xr-x  4 root  wheel   128  3 Apr  22:41 .
drwxr-xr-x  4 root  wheel   128 29 Mar  22:13 ..
drwxr-xr-x 12 root  wheel  384  4 Apr  13:44 site-packages
drwxr-xr-x  5 jiahao wheel   160  3 Apr  23:49 test
/Library/Python/3.7 $ cd site-packages
/Library/Python/3.7/site-packages $ ls -l
drwxr-xr-x 12 root  wheel   384  4 Apr  13:44 .
drwxr-xr-x  4 root  wheel   128  3 Apr  22:41 ..
drwxr-xr-x 12 root  wheel   384  1 Feb  14:29 asgiref
drwxr-xr-x  8 root  wheel   256  1 Feb  14:29 asgiref-
3.2.3.dist-info
drwxr-xr-x 22 root  wheel   704  1 Feb  14:29 django
drwxr-xr-x 11 root  wheel   352  1 Feb  14:29 Django-
3.0.2.dist-info
drwxr-xr-x  7 root  wheel   224  1 Feb  14:29 pip
drwxr-xr-x  9 root  wheel   288  1 Feb  14:29 pip-20.0.2.dist-
info
drwxr-xr-x 10 root  wheel   320  1 Feb  14:29 pytz
drwxr-xr-x 11 root  wheel   352  1 Feb  14:29 pytz-2019.3.dist-
info
drwxr-xr-x 16 root  wheel   512  1 Feb  14:29 sqlparse
drwxr-xr-x  9 root  wheel   288  1 Feb  14:29 sqlparse-
0.3.0.dist-info
/Library/Python/3.7/site-packages $ cd django
/Library/Python/3.7/site-packages/django $ find . test*
drwxr-xr-x 11 root  wheel   352  1 Feb  14:29
/Library/Python/3.7/site-packages/django/test
-rw-r--r--  1 root  wheel    60  1 Feb  14:29
/Library/Python/3.7/site-packages/django/conf/app_template/tests.py-tpl
-rw-r--r--  1 root  wheel  7301  1 Feb  14:29
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py
-rw-r--r--  1 root  wheel  7696  1 Feb  14:29
/Library/Python/3.7/site-
packages/django/contrib/admin/__pycache__/tests.cpython-37.pyc
```

```

-rw-r--r--      1 root   wheel      463   1 Feb  14:29
/Library/Python/3.7/site-packages/django/contrib/staticfiles/testing.py
-rw-r--r--      1 root   wheel      755   1 Feb  14:29
/Library/Python/3.7/site-
packages/django/contrib/staticfiles/__pycache__/testing.cpython-37.pyc
-rw-r--r--      1 root   wheel     2050   1 Feb  14:29
/Library/Python/3.7/site-packages/django/core/management/commands/test.py
-rw-r--r--      1 root   wheel     2117   1 Feb  14:29
/Library/Python/3.7/site-
packages/django/core/management/commands/testserver.py
-rw-r--r--      1 root   wheel     2198   1 Feb  14:29
/Library/Python/3.7/site-
packages/django/core/management/commands/__pycache__/test.cpython-37.pyc
-rw-r--r--      1 root   wheel     1838   1 Feb  14:29
/Library/Python/3.7/site-
packages/django/core/management/commands/__pycache__/testserver.cpython-
37.pyc
-rw-r--r--      1 root   wheel    61365   1 Feb  14:29
/Library/Python/3.7/site-packages/django/test/testcases.py
-rw-r--r--      1 root   wheel    49553   1 Feb  14:29
/Library/Python/3.7/site-
packages/django/test/__pycache__/testcases.cpython-37.pyc
/Library/Python/3.7/site-packages/django $ grep "test" contrib/admin/tes*
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py : 1   from
django.contrib.staticfiles.testing import StaticLiveServerTestCase
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py : 2   from
django.test import modify_settings
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py : 3   from
django.test.selenium import SeleniumTestCase
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py : 15
@modify_settings(MIDDLEWARE={'append':
'django.contrib.admin.tests.CSPMiddleware'})
/Library/Python/3.7/site-packages/django/contrib/admin/tests.py : 28
Block the execution of the tests until the specified callback returns a
/Library/Python/3.7/site-packages/django $ pwd
/Library/Python/3.7/site-packages/django
/Library/Python/3.7/site-packages/django $ cd /Library/Python/3.7/test
/Library/Python/3.7/test $ ls -l
drwxr-xr-x      5 jiahao   wheel      160   3 Apr  23:49  .
drwxr-xr-x      4 root     wheel      128   3 Apr  22:41  ..
-rw-r--r--@     1 jiahao   wheel     8196   3 Apr  22:52  .DS_Store
-rw-r--r--@     1 jiahao   wheel     3380   3 Apr  23:49  testfile.txt
drwxr-xr-x      8 jiahao   wheel      256   3 Apr  23:33
test_cpp_project
/Library/Python/3.7/test $ cd test_cpp_project
/Library/Python/3.7/test/test_cpp_project $ ls -l
drwxr-xr-x      8 jiahao   wheel      256   3 Apr  23:33  .
drwxr-xr-x      5 jiahao   wheel      160   3 Apr  23:49  ..
-rw-r--r--@     1 jiahao   wheel     6148   3 Apr  23:47  .DS_Store
drwxr-xr-x      6 jiahao   wheel      192   4 Apr  00:20  .idea
drwxr-xr-x      9 jiahao   wheel      288   3 Apr  23:33  cmake-build-
debug
-rw-r--r--@     1 jiahao   wheel      133   3 Apr  22:47  CMakeLists.txt
-rw-r--r--      1 jiahao   wheel      182   3 Apr  23:33  main.cpp

```

```
-rwxr-xr-x    1  jiahao  wheel   23032   3 Apr  23:33
test_executable_file
/Library/Python/3.7/test/test_cpp_project $ show PATH
/Library/Python/3.7/test/test_cpp_project $ export PATH
"/Library/Python/3.7/test/test_cpp_project"
/Library/Python/3.7/test/test_cpp_project $ show PATH
/Library/Python/3.7/test/test_cpp_project
/Library/Python/3.7/test/test_cpp_project $ cd ..
/Library/Python/3.7/test $ test_executable_file
Hello, World!
This is a test executable file for ECE656 project.
/Library/Python/3.7/test $
```