LAB 5:

GUI.Storing Data in Our MySQL Database via Our GUI

Nội dung

1. Installing and connecting to a MySQL server from Python
2. Configuring the MySQL database connection
3. Designing the Python GUI database
4. Using the SQL INSERT command
5. Using the SQL UPDATE command
6. Using the SQL DELETE command
7. Storing and retrieving data from our MySQL database
8. Using MySQL Workbench

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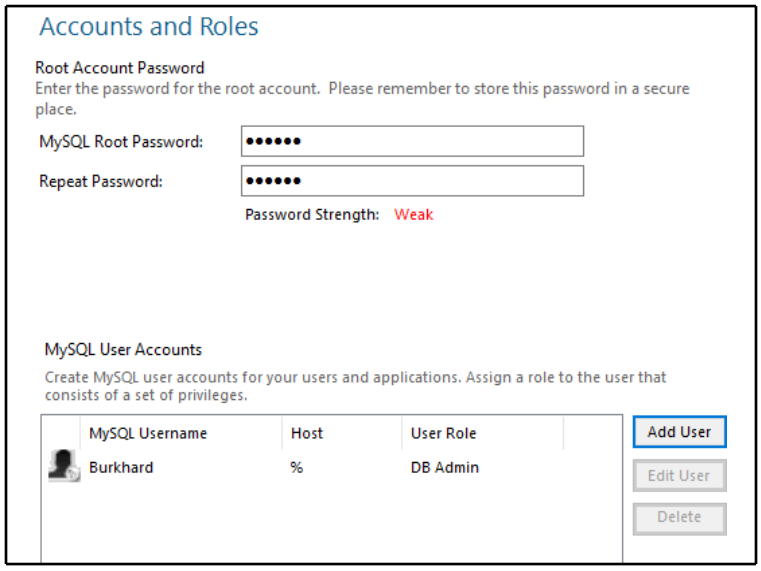
1. Cài đặt và kết nối với máy chủ MySQL từ Python

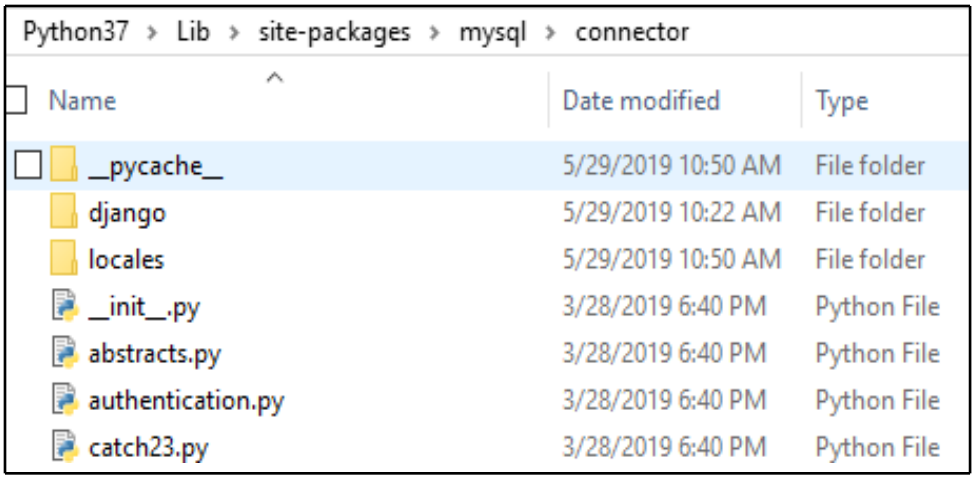
Hãy tải và cài đặt MySQL về, có thể download theo link:

http://dev.mysql.com/downloads/windows/installer/

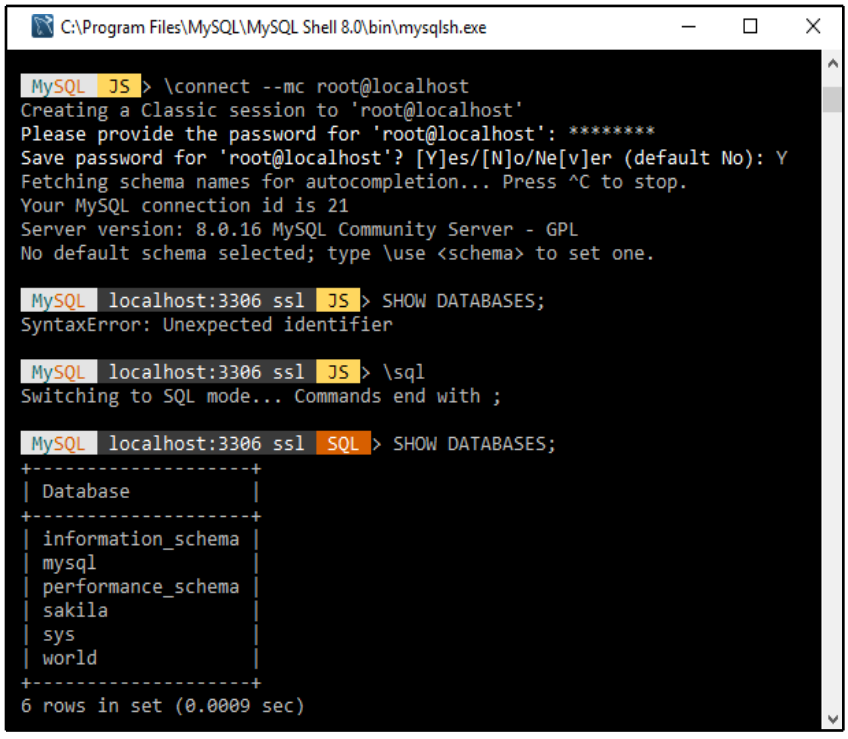
+ Chọn mật khẩu cho người dùng root và Add User



+ .. \Python37\Lib\site- packages\mysql\connector:



+ Gõ \sql
Trong MySql> prompt, gõ: SHOW DATABASES

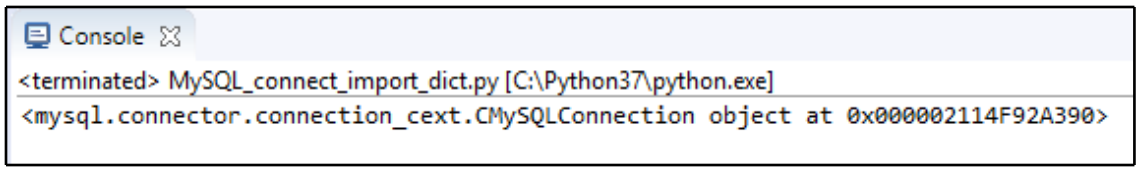


+ Tạo file: **MySQL-connect.py:**

import mysql
conn = mysql.connector.connect(user=<adminUser>, password=<adminPwd>,
host='127.0.0.1')

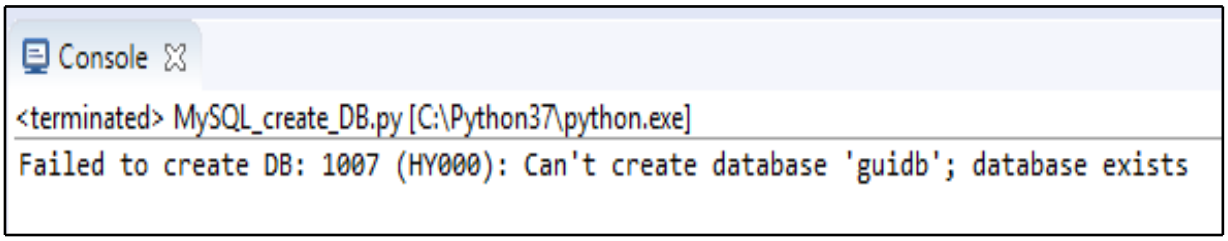
```
print(conn)
conn.close()
```

OUTPUT:



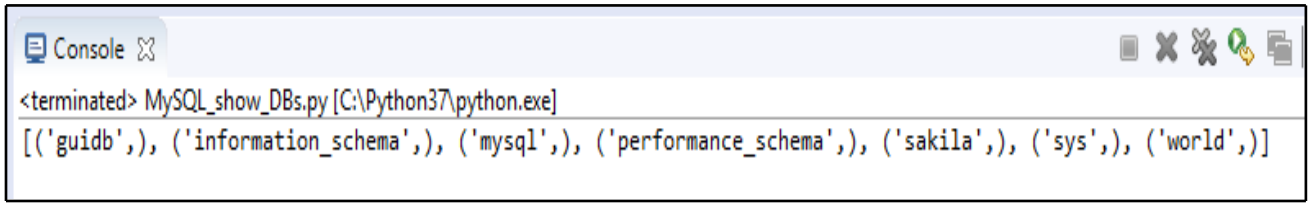
2. Định cấu hình kết nối cơ sở dữ liệu MySQL:

+Thêm module tạo từ điển lưu giữ thông tin kết nối,



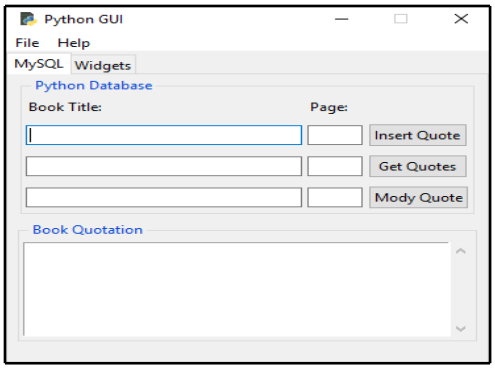
+ Tạo module mới (MySQL_show_DBs.py), thêm mã sau:

```
import mysql.connector
import GuiDBConfig as guiConf
# unpack dictionary credentials
conn = mysql.connector.connect(**guiConf.dbConfig)
cursor = conn.cursor()
cursor.execute("SHOW DATABASES")  print(cursor.fetchall())
conn.close()
```

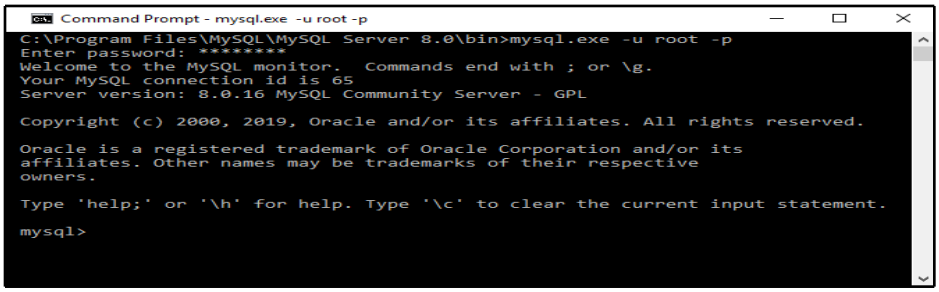


3. Thiết kế cơ sở dữ liệu GUI Python:

+ Mở file GUI_TCP_IP.py và save thành file GUI_MySQL.py (Tải code từ website Packt), được kết quả như hình:

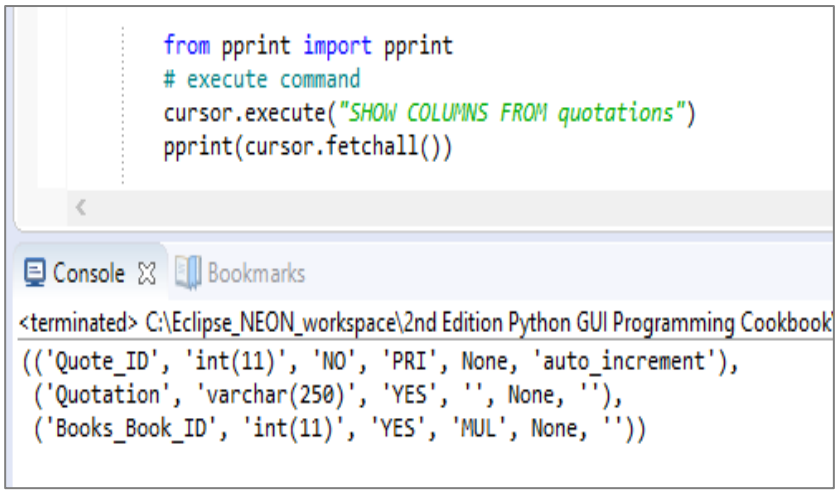


+ Sau khi chạy mysql.exe:



+ Chèn vào các lệnh:

SHOW COLUMNS FROM books
SHOW TABLES
SHOW COLUMNS
SHOW COLUMNS lại với print như hình sau:



4.Sử dụng lệnh SQL INSERT:

Mở Command Prompt và execute 2 câu lệnh **SELECT * statements**, như hình:

```
mysql> USE guidb
Database changed
mysql> SELECT * FROM books;
+---------+--------------------+-----------+
| Book_ID | Book_Title         | Book_Page |
+---------+--------------------+-----------+
|       1 | Design Patterns    |         7 |
|       2 | xUnit Test Patterns |        31 |
+---------+--------------------+-----------+
2 rows in set (0.10 sec)

mysql> SELECT * FROM quotations;
+----------+-----------------------------------------------------+---------------+
| Quote_ID | Quotation                                           | Books_Book_ID |
+----------+-----------------------------------------------------+---------------+
|        1 | Programming to an Interface, not an Implementation |             1 |
|        2 | Philosophy of Test Automation                       |             2 |
+----------+-----------------------------------------------------+---------------+
2 rows in set (0.00 sec)

mysql>
```

5.Sử dụng lệnh SQL UPDATE tạo ra như hình:

+ Tạo showData, updateGOF method được kết quả như hình:

```
Console  Bookmarks
<terminated> C:\Eclipse_NEON_workspace\2nd Edition Python GUI Programming Cookbook\Ch07_Code\GUI_MySQL_class.py
((1, 'Design Patterns', 7), (2, 'xUnit Test Patterns', 31))
((1, 'Programming to an Interface, not an Implementation', 1), (2, 'Philosophy of Test Automation', 2))
```

```
# execute command
cursor.execute("SELECT Book_ID FROM books WHERE Book_Title = 'Design Patterns'")
primKey = cursor.fetchall()[0][0]
print("Primary key=" + str(primKey))

cursor.execute("SELECT * FROM quotations WHERE Books_Book_ID = (%s)", (primKey,))
print(cursor.fetchall())
```

```
Console  Bookmarks
<terminated> C:\Eclipse_NEON_workspace\2nd Edition Python GUI Programming Cookbook\Ch07_Code\GUI_MySQL_class.py
Primary key=1
((1, 'Programming to an Interface, not an Implementation', 1),)
```

+ Mở MySQL và run the SELECT * statements:

```
mysql> USE guidb
Database changed
mysql> SELECT * FROM books;
+---------+--------------------+-----------+
| Book_ID | Book_Title         | Book_Page |
+---------+--------------------+-----------+
|       1 | Design Patterns    |         7 |
|       2 | xUnit Test Patterns |        31 |
+---------+--------------------+-----------+
2 rows in set (0.10 sec)

mysql> SELECT * FROM quotations;
+----------+-----------------------------------------------+---------------+
| Quote_ID | Quotation                                     | Books_Book_ID |
+----------+-----------------------------------------------+---------------+
|        1 | Programming to an Interface, not an Implementation |             1 |
|        2 | Philosophy of Test Automation                 |             2 |
+----------+-----------------------------------------------+---------------+
```

```
mysql> SELECT * FROM books;
+---------+--------------------+-----------+
| Book_ID | Book_Title         | Book_Page |
+---------+--------------------+-----------+
|       1 | Design Patterns    |         7 |
|       2 | xUnit Test Patterns |        31 |
+---------+--------------------+-----------+
2 rows in set (0.00 sec)

mysql> SELECT * FROM quotations;
+----------+-----------------------------------------------------------------------------------------------------+-
--+
| Quote_ID | Quotation                                                                                           |
D |
+----------+-----------------------------------------------------------------------------------------------------+-
--+
|        1 | Pythonic Duck Typing: If it walks like a duck and talks like a duck it probably is a duck...        |
1 |
|        2 | Philosophy of Test Automation                                                                       |
2 |
+----------+-----------------------------------------------------------------------------------------------------+-
--+
```

6.Sử dụng lệnh SQL DELETE:

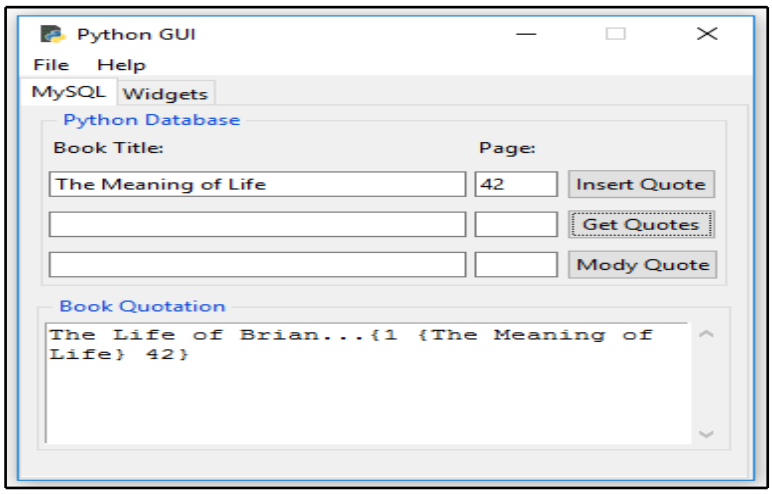
+ SQL command: cursor.execute("DELETE FROM books WHERE Book_ID = 1")

```
mysql> SELECT * FROM books;
+---------+--------------------+-----------+
| Book_ID | Book_Title         | Book_Page |
+---------+--------------------+-----------+
|       2 | xUnit Test Patterns |        31 |
+---------+--------------------+-----------+
1 row in set (0.00 sec)

mysql> SELECT * FROM quotations;
+----------+-----------------------------------------------+---------------+
| Quote_ID | Quotation                                     | Books_Book_ID |
+----------+-----------------------------------------------+---------------+
|        1 | Programming to an Interface, not an Implementation |             1 |
|        2 | Philosophy of Test Automation                 |             2 |
+----------+-----------------------------------------------+---------------+
2 rows in set (0.00 sec)

mysql>
```

+ Hãy tạo deleteRecord() method và run results như hình:

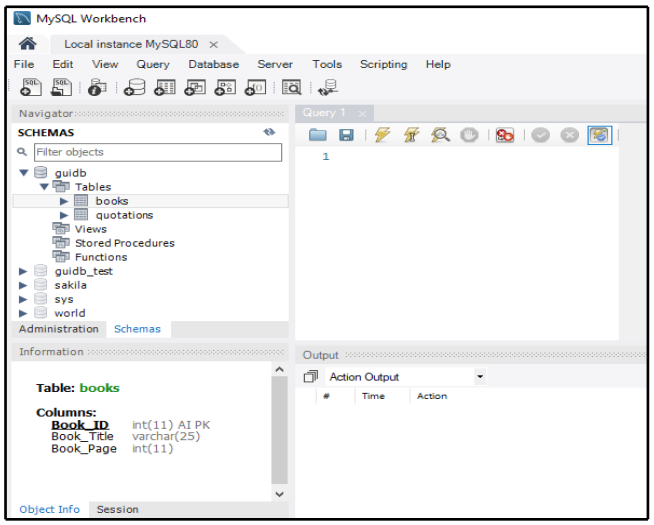
7.Lưu trữ và truy xuất dữ liệu:

Sử dụng tiện ích ScrolledText để chèn, truy xuất và sửa đổi khi nhập các trích dẫn cuốn sách và lưu trữ trong cơ sở dữ liệu.



8.Sử dụng MySQL Workbench:

+ Download và install MySQL Workbench,
+ Chọn **guidb**:



+ Viết và thực thi một số lệnh SQL như hình sau: