

EECS116/CS122A

Mini-Project 2 - Database Programming

In this project, you will learn how to write a program that can interact with a database. The project is due by 11:59PM, 03/15.

Deliverables

1. The source code of your program that can interact with MySQL.
2. The output of your program.

STEP 1 – Choose the programming language and install the library

In this project, we recommend you to use Java or Python to write your program. Before start, you need to download the corresponding MySQL library. We provide sample templates for Java and Python below.


Java: To connect MySQL from java, you have to use the JDBC driver from MySQL. The MySQL JDBC driver is called "MySQL Connector/J". You should be able to find the latest MySQL JDBC driver on this page

<http://dev.mysql.com/downloads/connector/j/5.0.html>

Download the file, extract it, and put the mysql-connector-java-5.0.8-bin.jar file to your library directory.

Python: If you use Python as the programming language, you should use Python2.7 to work with MySQL. Download MySQLdb for Python 2.7 here:

<https://pypi.python.org/pypi/MySQL-python/1.2.5>



python™

» Package Index » MySQL-python » 1.2.5

PACKAGE INDEX

- Browse packages
- List trove classifiers
- RSS (latest 40 updates)
- RSS (newest 40 packages)
- Terms of Service
- PyPI Tutorial
- PyPI Security
- PyPI Support
- PyPI Bug Reports
- PyPI Discussion
- PyPI Developer Info

ABOUT

NEWS

DOCUMENTATION

DOWNLOAD

COMMUNITY

FOUNDATION

CORE DEVELOPMENT

MySQL-python 1.2.5

Python interface to MySQL

Downloads

MySQLdb is an interface to the popular MySQL database server for Python. The design goals are:

- Compliance with Python database API version 2.0 [PEP-0249]
- Thread-safety
- Thread-friendliness (threads will not block each other)

MySQL-3.23 through 5.5 and Python-2.4 through 2.7 are currently supported. Python-3.0 will be supported in a future release. PyPy is supported.

MySQLdb is Free Software.

[PEP-0249] <http://www.python.org/peps/pep-0249.html>

File	type	Py version	Uploaded on	Size
MySQL-python-1.2.5.win32-py2.7.exe (md5)	MS Windows installer	2.7	2014-01-02	1MB
MySQL-python-1.2.5.zip (md5)	Source		2014-01-02	106KB

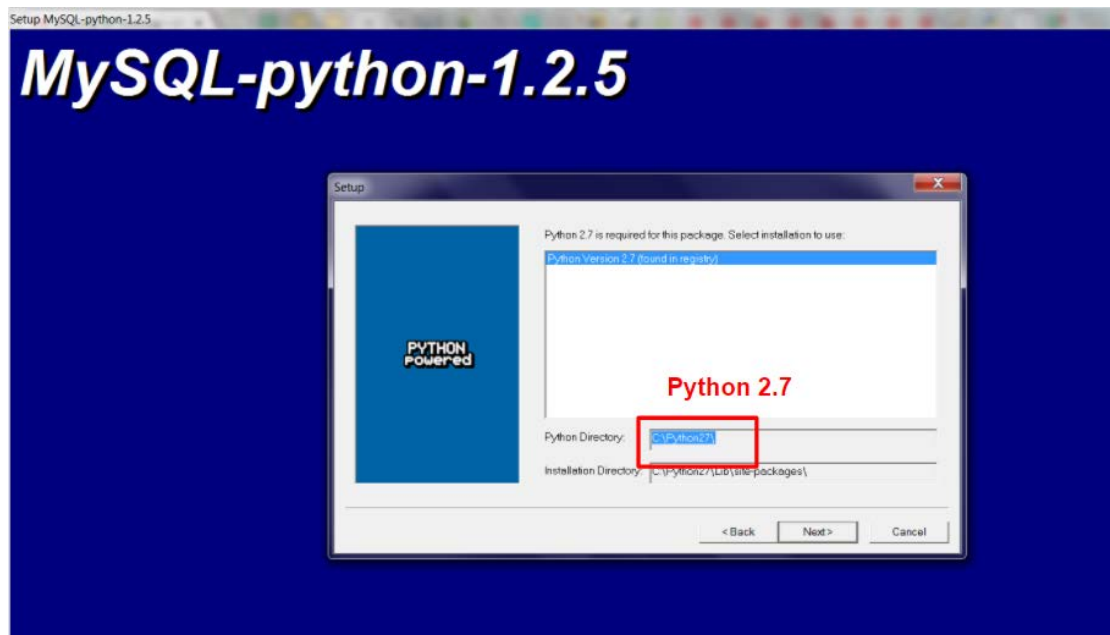
Not Logged In

- Login
- Register
- Lost Login?
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- Login with Google

Status

Nothing to report

Choose the .exe file to install (MySQL-python-1.2.5.win32-py2.7.exe).



We also provide template codes for mysql interaction in Java and Python:

1. [Java code template](#)
2. Python code template:

Here's the example code, in the example codes, the program establish the connection to the database "sample_python" at localhost (your local machine), using user name: root, password: xxxxxxxxxxxx.

```
import MySQLdb

db = MySQLdb.connect(host="localhost",
                    user="root",
                    passwd="xxxxxxxxxx",
                    db="sample_python")

cur = db.cursor()
cur.execute("SELECT * FROM reserves")
for row in cur.fetchall():
    print row

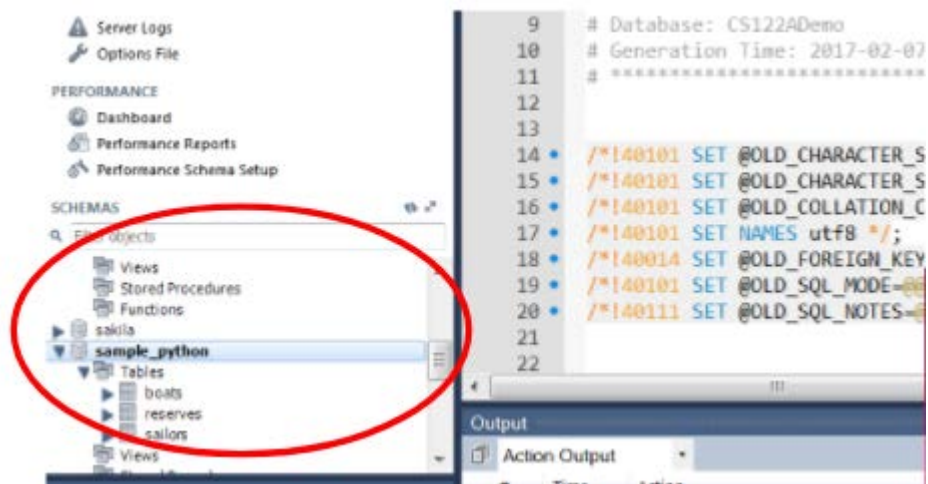
db.close
```

STEP 2 – Write the program

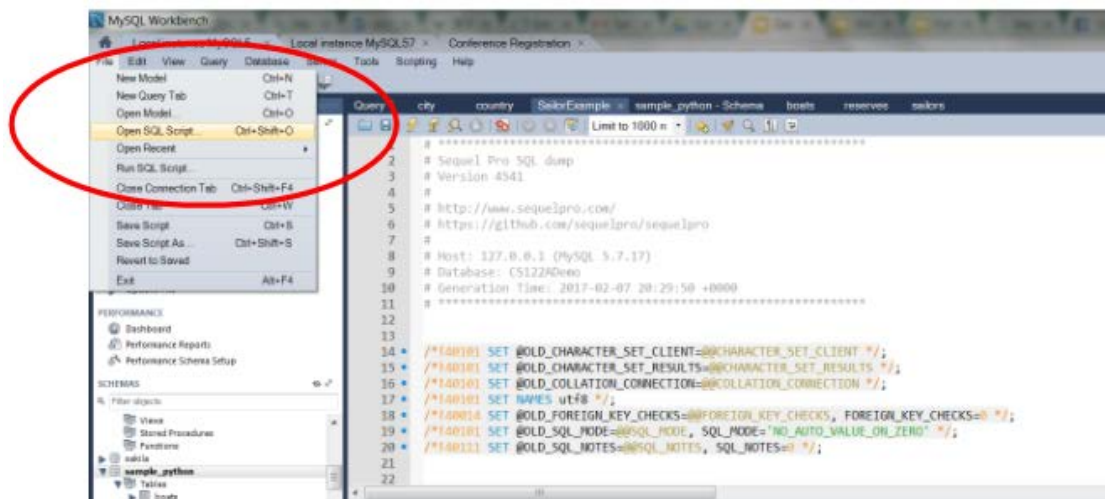
Use your localhost in MySQL as the server. Download the SQL file we prepared (Project1.sql) here:

<https://drive.google.com/drive/u/0/folders/1HbDfFrs9Y4mEB4tfnRrjqBvzSq29rePX>

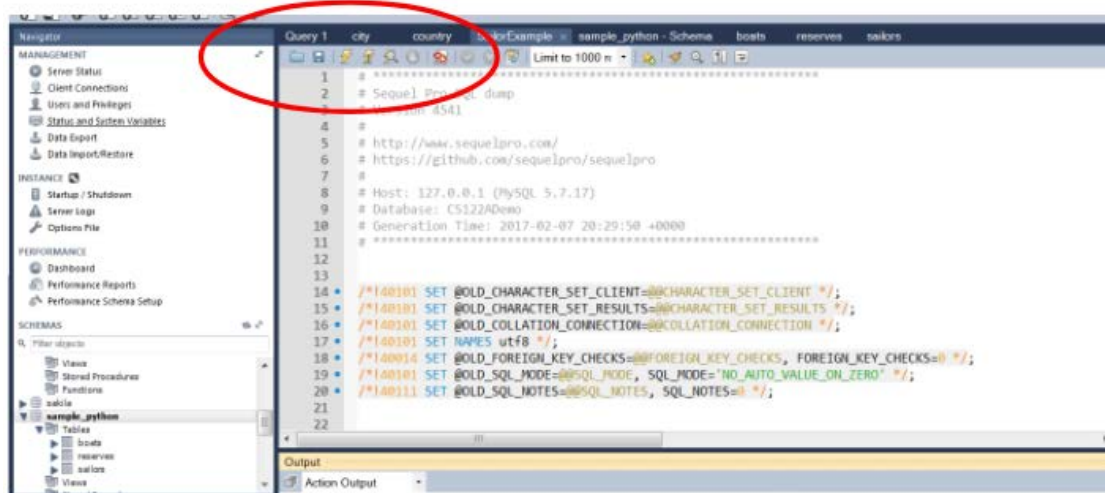
Open your MySQL. In the schemas area, right click to create a schema name it anything you prefer (here we use sample_python), and then double click on the "sample_python" to make it a default DB to be used.



Click File - Open SQL Script. Choose the Project1.sql you downloaded.



Click the “thunderbolt” to execute the script



Click the refresh button to refresh the schemas. Then check the

schema "sample_python" to see if tables "question" and "result" are there. Then, the dataset is ready!

Remember the database is called sample_python or anything you named . Use username and password you created to login. Modify the corresponding URL (IP address and database name), user name and password in the code template.

There are two tables in the database "project2":

question (name, A, B)
result (name, result)

Write a program to do the following functions in order:

1. In table "question", there is already some data: A list of student names and two random numbers A and B. Your program should print out all the data in this table. Example output:

```
question:
John Smith, 3156, 9327
George Wang, 1357, 8642
...
```

2. Find your own name in table "question", get the numbers A and B, then calculate $A * B + \text{the last 2 digits of your student id}$, e.g., if $A=3156$, $B=9327$, your student id is 12345678. The calculation result will be $3156*9327+78=29436090$. Insert your **name**, **last 2 digits of your student id** and **the result** to the "result" table. If you want to execute your program multiple times and doesn't want to see errors of trying to insert duplicate entries, you may use "INSERT IGNORE INTO" statement, which will do nothing if there is already the same entry in the table.

3. Form a query to find your name and the result from the "result" table, print it out. Example output:

```
result:
John Smith, 29436090
```

Put your outputs to a text file using the name "**output.txt**", and then archive with your source code (better using the name **project2.java** or **.py**) to the file "**MP2-xxxxxxx.zip**", xxxxxxxx being your student id, and turn it in on eee dropbox under folder "**project2**". **Note: Not submitting the file under the correct folder may cause a deduction in your credit.**