How to install MySql on WSL2:

Step 1: Go to your work directory

$ cd <path_to_your_work_directory>

Step 2: install MySql server

sudo apt update && sudo apt upgrade

sudo apt install mysql-server

mysql --version

Step3: Create database cs531 and table tb1

sudo mysql

```
mysql> create database cs531;
Query OK, 1 row affected (0.11 sec)

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| cs531              |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.01 sec)

mysql> use cs531;
Database changed
mysql> create table tb1(user_name VARCHAR(100) NOT NULL, user_email VARCHAR(40)
NOT NULL);
Query OK, 0 rows affected (0.39 sec)
```

```
mysql> decribe tb1;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
'e right syntax to use near 'decribe tb1' at line 1
mysql> describe tb1;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| user_name  | varchar(100) | NO   |     | NULL    |       |
| user_email | varchar(40)  | NO   |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
2 rows in set (0.01 sec)

mysql> insert tb1(user_name, user_email) values('cindy','cindy@gmail.com');
Query OK, 1 row affected (0.10 sec)

mysql> select * from tb1;
+------------+-----------------+
| user_name  | user_email      |
+------------+-----------------+
| cindy      | cindy@gmail.com |
+------------+-----------------+
1 row in set (0.00 sec)
```

Step 4: Install pymysql, so that you can import pymysql module in your python file.

$ sudo apt-get install python3-pymysql

$ import python3-pymysql

```
       @ASUS-F554L:~/tmp/html/cgi-bin$ ./test_mysql.py
Traceback (most recent call last):
  File "./test_mysql.py", line 4, in <module>
    import pymysql
ModuleNotFoundError: No module named 'pymysql'
       @ASUS-F554L:~/tmp/html/cgi-bin$ sudo apt-get install python3-pymysql
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-headers-5.4.0-109 linux-headers-5.4.0-109-generic
  linux-image-5.4.0-109-generic linux-modules-5.4.0-109-generic
  linux-modules-extra-5.4.0-109-generic
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  python-pymysql-doc
The following NEW packages will be installed:
  python3-pymysql
0 upgraded, 1 newly installed, 0 to remove and 42 not upgraded.
Need to get 38.9 kB of archives.
After this operation, 179 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal/main amd64 python3-pymysql all 0.9.3-2ubuntu3 [38.9 kB]
Fetched 38.9 kB in 1s (76.3 kB/s)
```

Step 5: In case you still can not connect to the MySql in your python file by calling pymysql.connect(...)

$sudo mysql

mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'xin';

mysql> flush previliges;

mysql> quit;

```
       @ASUS-F554L:~/tmp/html/cgi-bin$ ./test_mysql.py
Traceback (most recent call last):
  File "./test_mysql.py", line 7, in <module>
    db = pymysql.connect("localhost","root","xin","cs531" )
  File "/usr/lib/python3/dist-packages/pymysql/__init__.py", line 94, in Connect
    return Connection(*args, **kwargs)
  File "/usr/lib/python3/dist-packages/pymysql/connections.py", line 325, in __init__
    self.connect()
  File "/usr/lib/python3/dist-packages/pymysql/connections.py", line 599, in connect
    self._request_authentication()
  File "/usr/lib/python3/dist-packages/pymysql/connections.py", line 861, in _request_authentication
    auth_packet = self._read_packet()
  File "/usr/lib/python3/dist-packages/pymysql/connections.py", line 684, in _read_packet
    packet.check_error()
  File "/usr/lib/python3/dist-packages/pymysql/protocol.py", line 220, in check_error
    err.raise_mysql_exception(self._data)
  File "/usr/lib/python3/dist-packages/pymysql/err.py", line 109, in raise_mysql_exception
    raise errorclass(errno, errval)
pymysql.err.InternalError: (1698, "Access denied for user 'root'@'localhost'")
       @ASUS-F554L:~/tmp/html/cgi-bin$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.30-0ubuntu0.20.04.2 (Ubuntu)
```

```
     ∎@ASUS-F554L:~/tmp/html/cgi-bin$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.30-0ubuntu0.20.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'password';
Query OK, 0 rows affected (0.06 sec)

mysql> flush privileges;
Query OK, 0 rows affected (0.04 sec)

mysql> quit
Bye
```

Please use the same password 'xin' to set the identity for 'root@localhost'.