

Database System Labs

- create db and import dataset

李旭东

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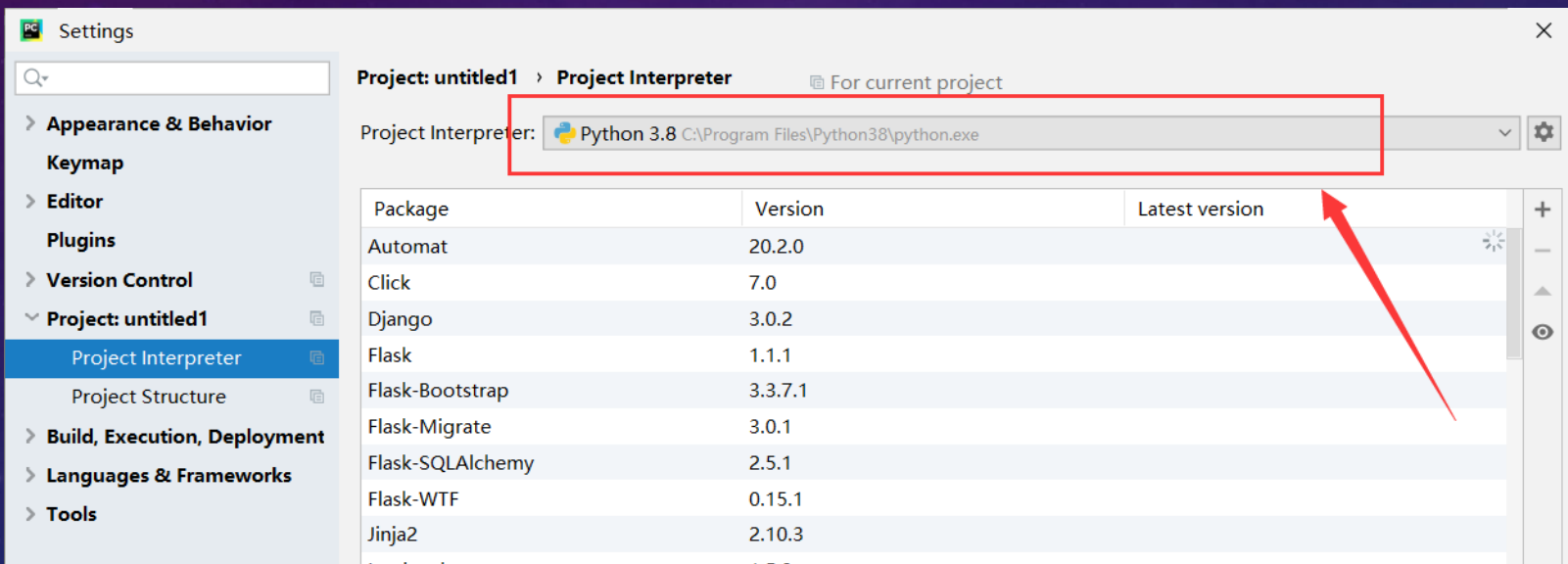
Nankai University

OBJECTIVES

- Python env config
- Create a new user and Grant DBA privilege
- Create a new DB and import some schemas
- SIMPLE QUERY STATEMENT
- quiz

- Cmd中输入python能打出版版本号即安装成功,否则需要配置环境变量

```
C:\Users\hp>python
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:37:50) [MSC v.1916
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```



- Pycharm中File->Settings中选择好interpreter

- 确保拥有pip(cmd里输入pip)

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [版本 10.0.19044.2604]
(c) Microsoft Corporation。保留所有权利。

C:\Users\hp>pip --version
pip 23.0.1 from C:\Program Files\Python38\Lib\site-packages\pip (python 3.8)

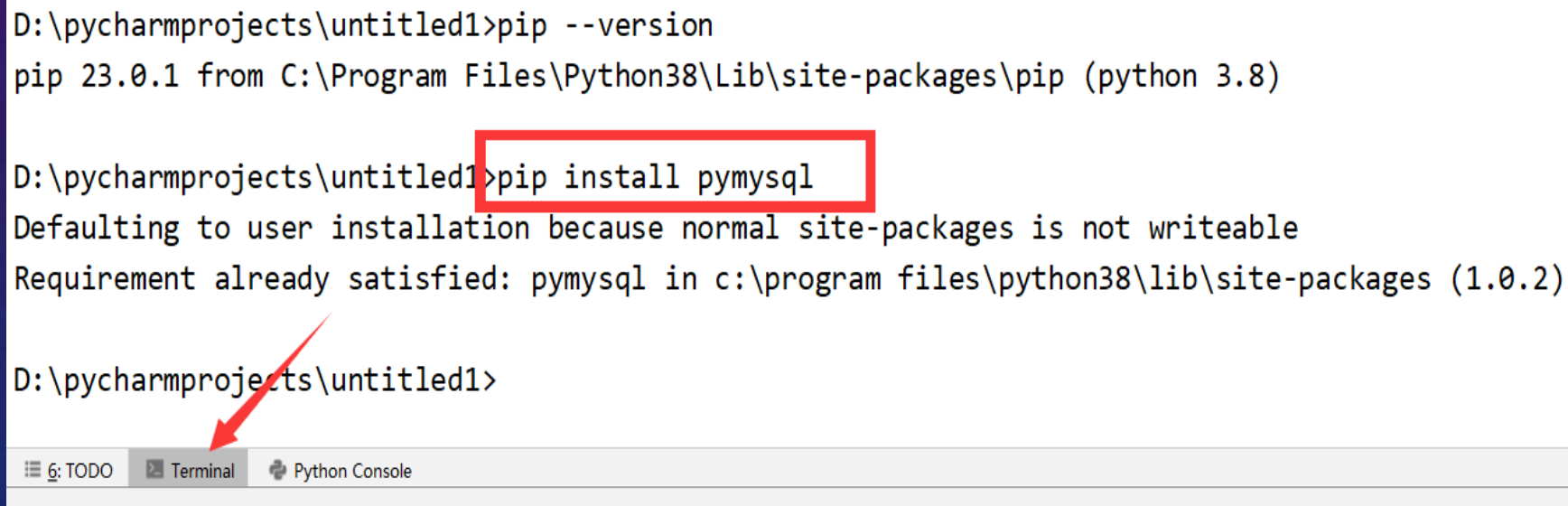
C:\Users\hp>
```

- 在terminal中使用pip安装pymysql

```
D:\pycharmprojects\untitled1>pip --version
pip 23.0.1 from C:\Program Files\Python38\Lib\site-packages\pip (python 3.8)

D:\pycharmprojects\untitled1>pip install pymysql
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: pymysql in c:\program files\python38\lib\site-packages (1.0.2)

D:\pycharmprojects\untitled1>
```

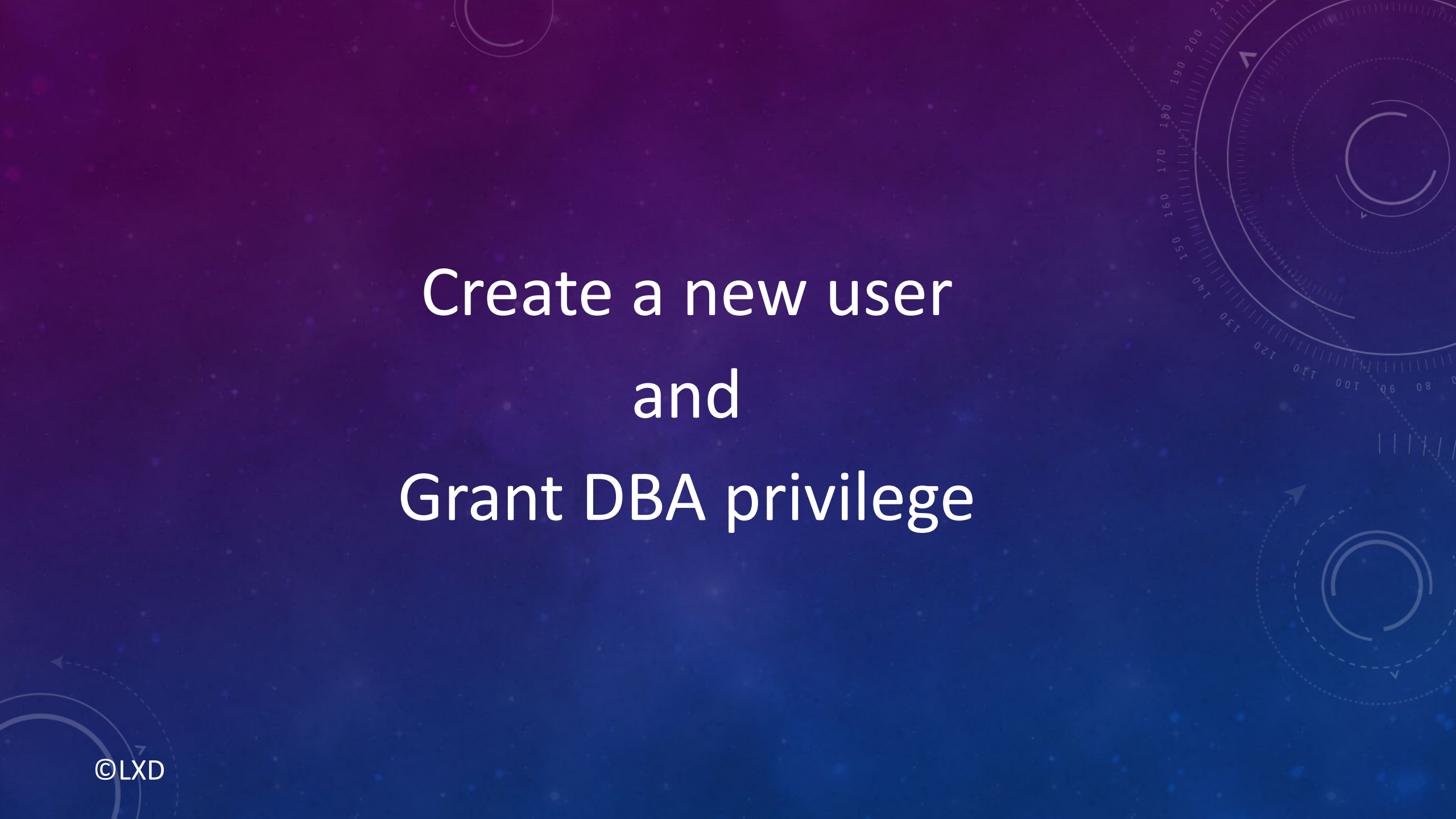


CONNECTION

```
import pymysql
conn=pymysql.connect(host='localhost',user='root',password='123',database='sys',charset='utf8')
cursor=conn.cursor()
sql = 'select version()'
cursor.execute(sql)
retdata = cursor.fetchall()
for row in retdata:
    print(row[0])
cursor.close()
conn.close()
```

Database version : 8.0.19

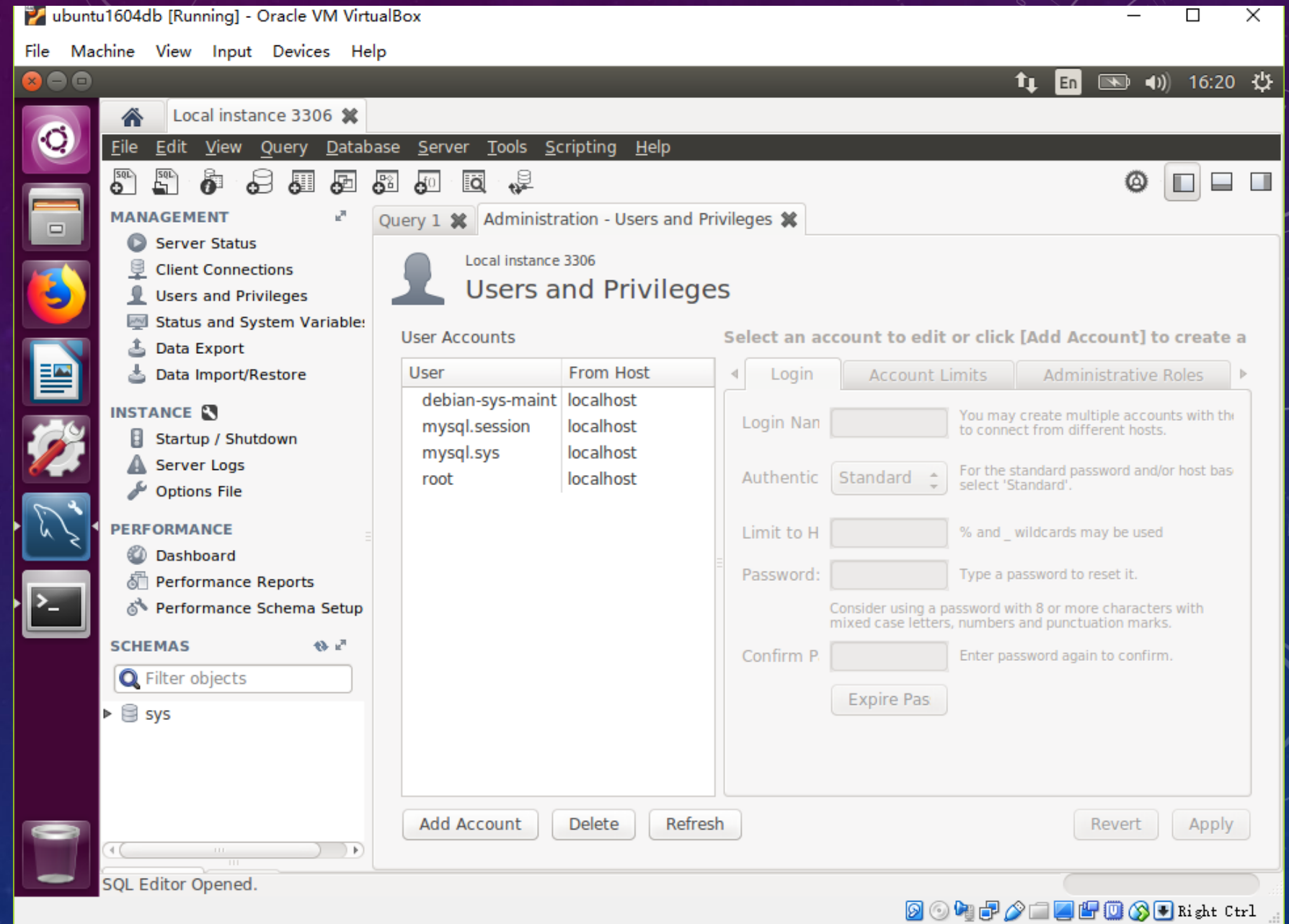
Process finished with exit code 0



Create a new user and Grant DBA privilege

MYSQL: IMPORT DATA OF LABS

- Add DB User
 - myuser
 - mypwd



MYSQL: IMPORT DATA OF LABS

- Add DB User
 - myuser
 - mypwd

©LXD

ubuntu1604db [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Local instance 3306

File Edit View Query Database Server Tools Scripting Help

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variable
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SCHEMAS

Filter objects

sys

Query 1 Administration - Users and Privileges

Local instance 3306

Users and Privileges

User Accounts

User	From Host
debian-sys-maint	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost
newuser	%

Details for account newuser@%

Login Account Limits Administrative Roles

Login Name: myuser You may create multiple accounts with this to connect from different hosts.

Authentication: Standard For the standard password and/or host based select 'Standard'.

Limit to Host: % % and _ wildcards may be used

Password: Type a password to reset it.

Weak password.

Confirm Password: Enter password again to confirm.

Expire Password

Add Account Delete Refresh Revert Apply

SQL Editor Opened.

Right Ctrl

MYSQL: IMPORT DATA OF LABS

- Add DB User
 - myuser
 - mypwd

©LXD

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Query 1 Administration - Users and Privileges

Local instance 3306

Users and Privileges

User Accounts

User	From Host
debian-sys-maint	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost
newuser	%

Details for account newuser@%

Login Account Limits Administrative Roles

Role

- ☒ DBA
- ☒ MaintenanceAdmin
- ☒ ProcessAdmin
- ☒ UserAdmin
- ☒ SecurityAdmin
- ☒ MonitorAdmin
- ☒ DBManager
- ☒ DBDesigner
- ☒ ReplicationAdmin
- ☒ BackupAdmin

Global Privileges

- ☒ ALTER
- ☒ ALTER ROUTINE
- ☒ CREATE
- ☒ CREATE ROUTINE
- ☒ CREATE TABLESPACE
- ☒ CREATE TEMPORARY TABLES
- ☒ CREATE USER
- ☒ CREATE VIEW
- ☒ DELETE
- ☒ DROP
- ☒ EVENT

Revoke All Privileges

Add Account Delete Refresh Revert Apply

SQL Editor Opened.

Right Ctrl

MYSQL: IMPORT DATA OF LABS

- New Connection

ubuntu1604db [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

MySQL Workbench

Local instance 3306

File Edit View Query Database Server Tools Scripting Help

Connect to Database... Ctrl+U

Manage Connections...

Reverse Engineer... Ctrl+R

Schema Transfer Wizard...

Migration Wizard...

Edit Type Mappings for Generic Migration...

Search Table Data...

MANAGEMENT

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SCHEMAS

Filter objects

sys

mysql.session	localhost
mysql.sys	localhost
myuser	%
root	localhost

Account myuser@%

Account Limits Administrative Roles

Global Privileges

- ☒ ALTER
- ☒ ALTER ROUTINE
- ☒ CREATE
- ☒ CREATE ROUTINE
- ☒ CREATE TABLESPACE
- ☒ CREATE TEMPORARY TABLES
- ☒ CREATE USER
- ☒ CREATE VIEW
- ☒ DELETE
- ☒ DROP
- ☒ EVENT

Role

- ☒ DBA
- ☒ MaintenanceAdm
- ☒ ProcessAdmin
- ☒ UserAdmin
- ☒ SecurityAdmin
- ☒ MonitorAdmin
- ☒ DBManager
- ☒ DBDesigner
- ☒ ReplicationAdmin
- ☒ BackupAdmin

Revoke All Privileges

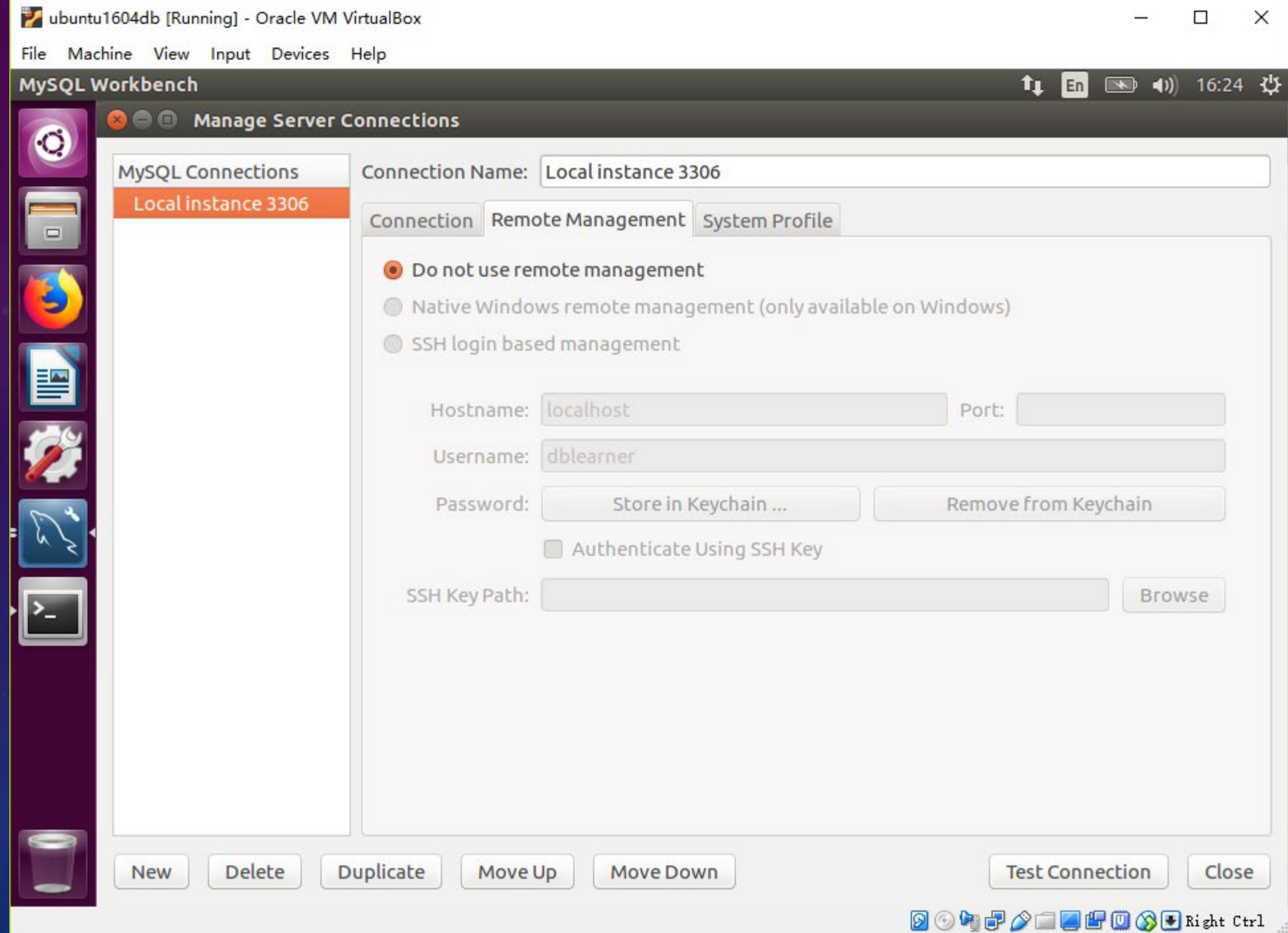
Add Account Delete Refresh Revert Apply

©LXD

Right Ctrl

MYSQL: IMPORT DATA OF LABS

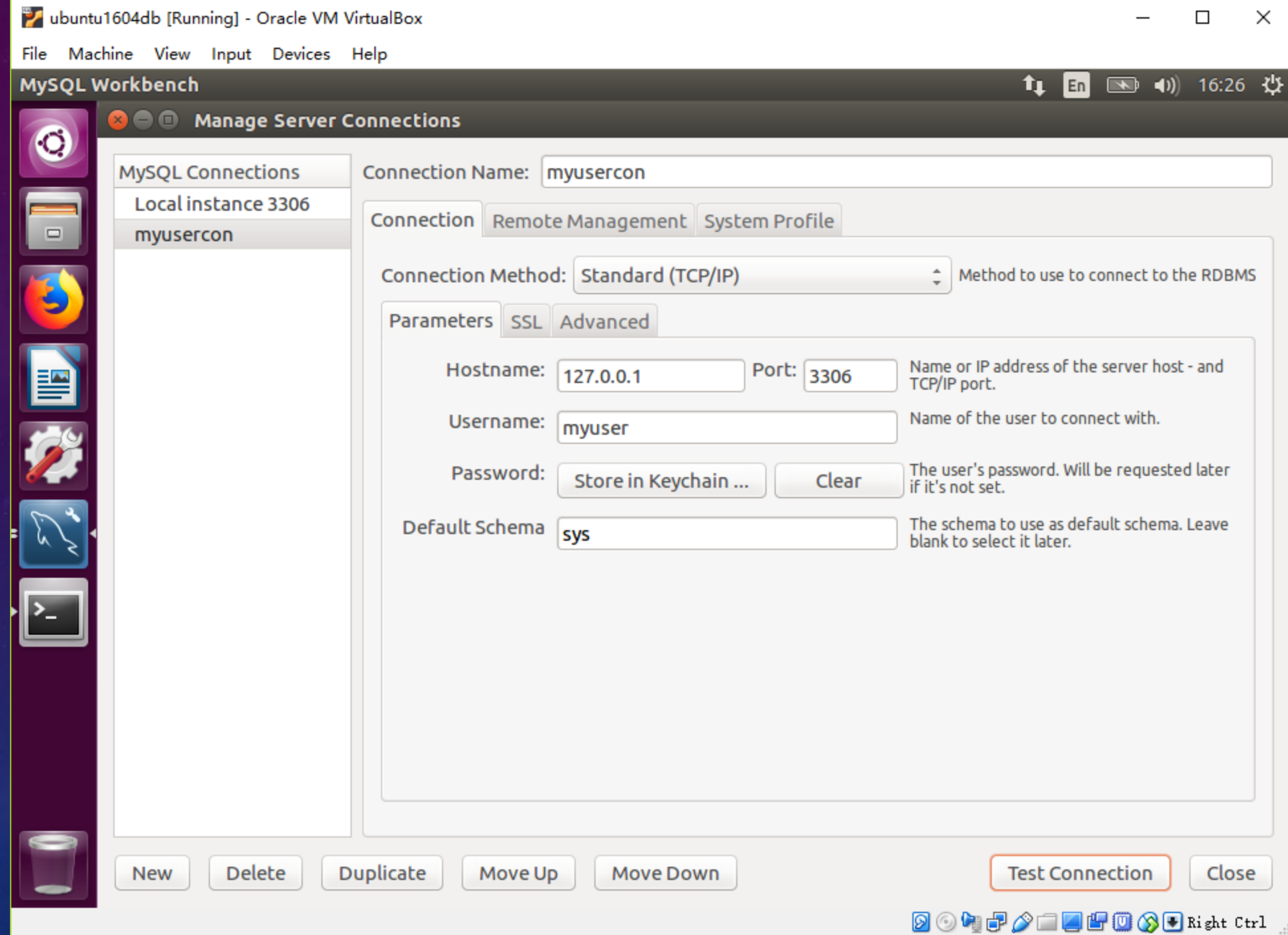
- New Connection



MYSQL: IMPORT DATA OF LABS

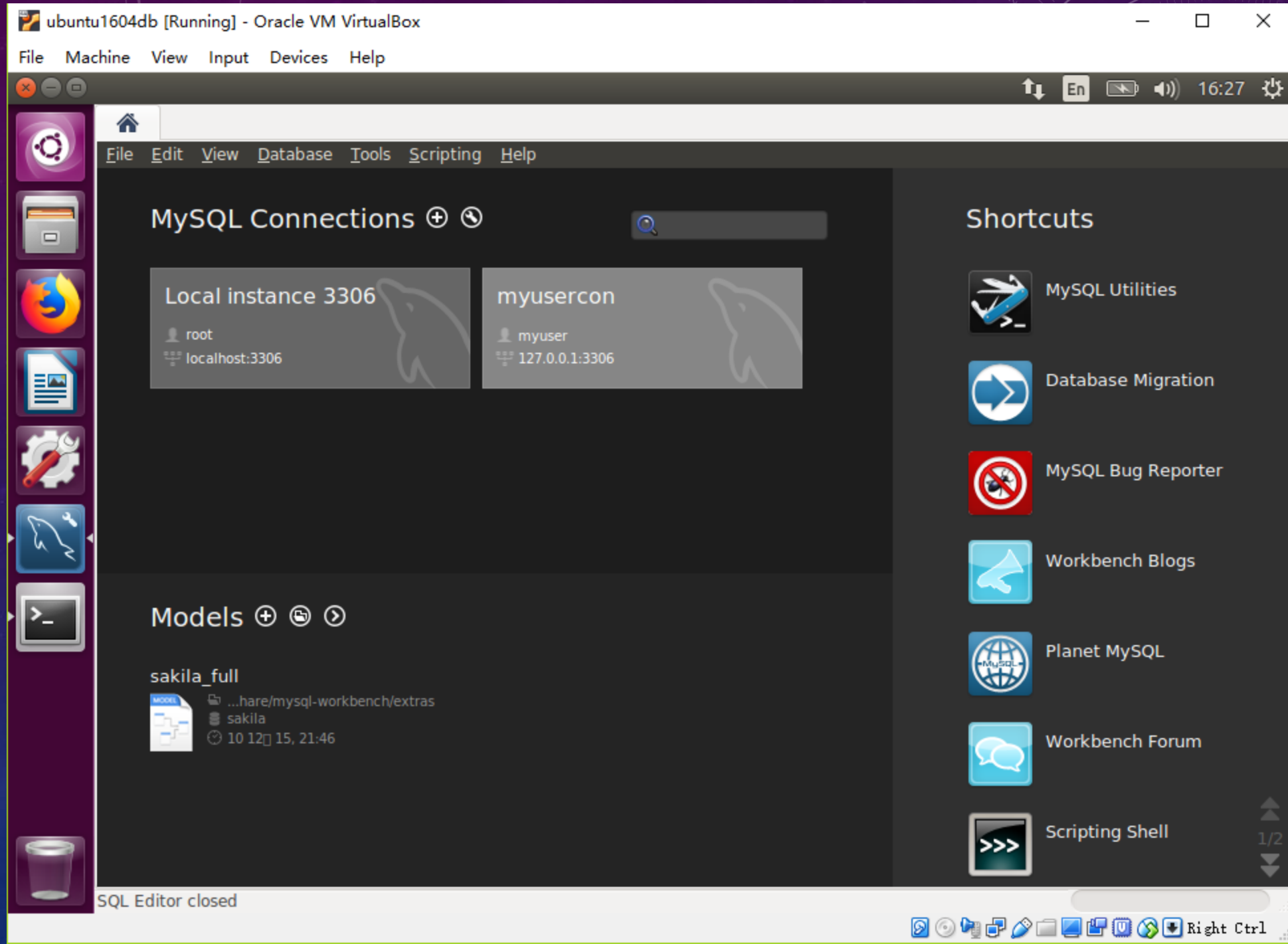
- New Connection

©LXD



MYSQL: IMPORT DATA OF LABS

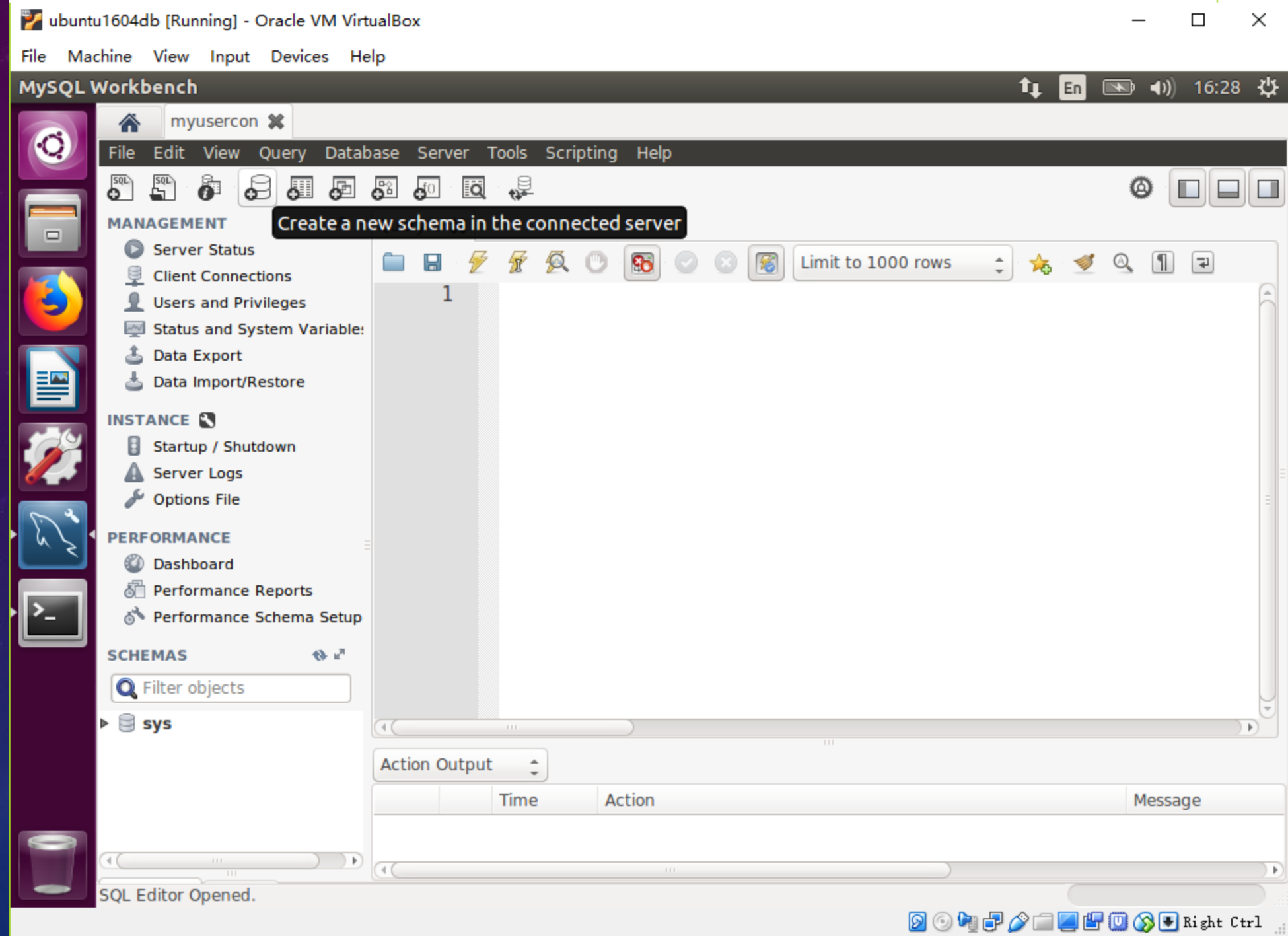
- New Connection




MYSQL: IMPORT DATA OF LABS

- New DB
 - dbsclab2018

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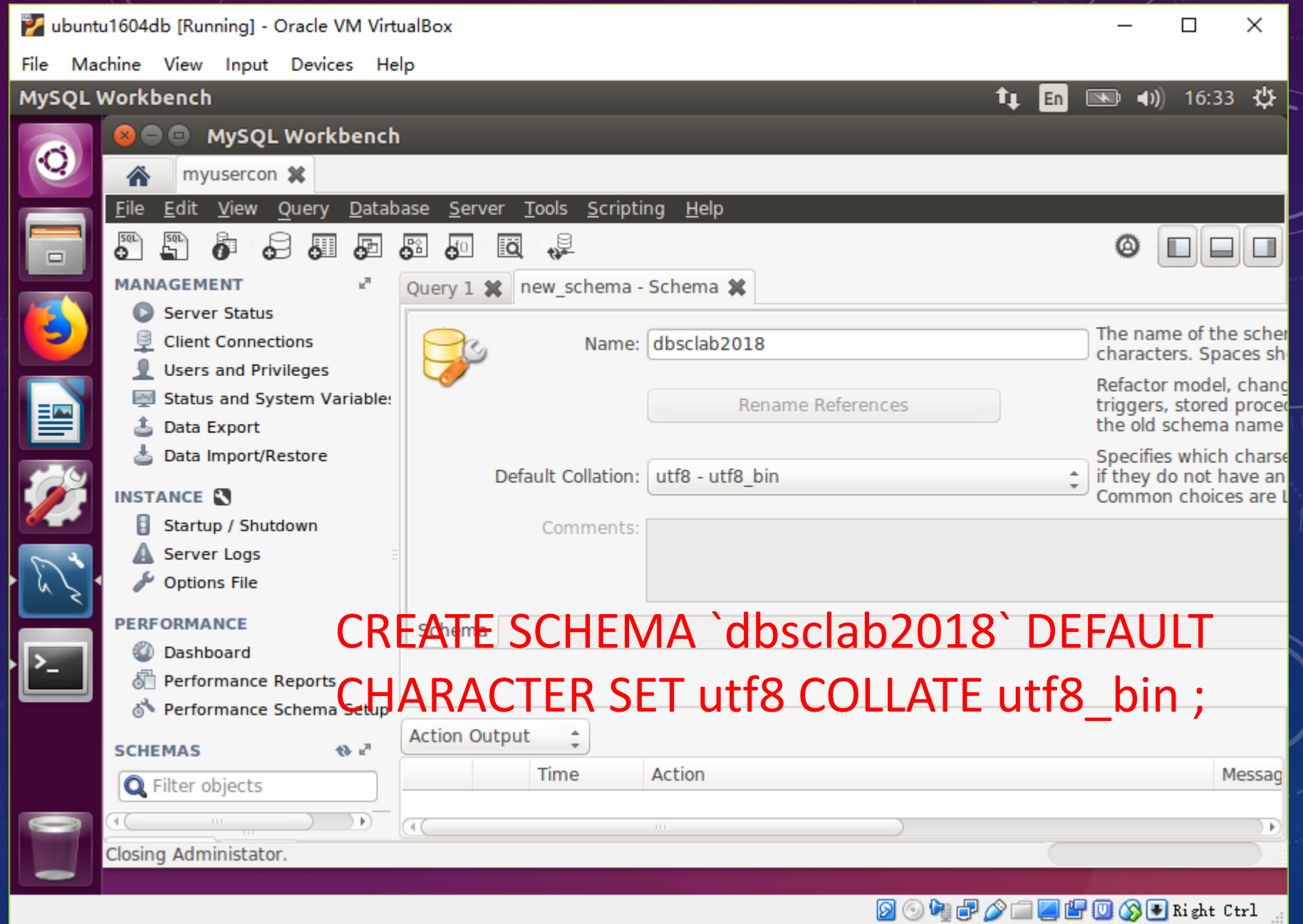


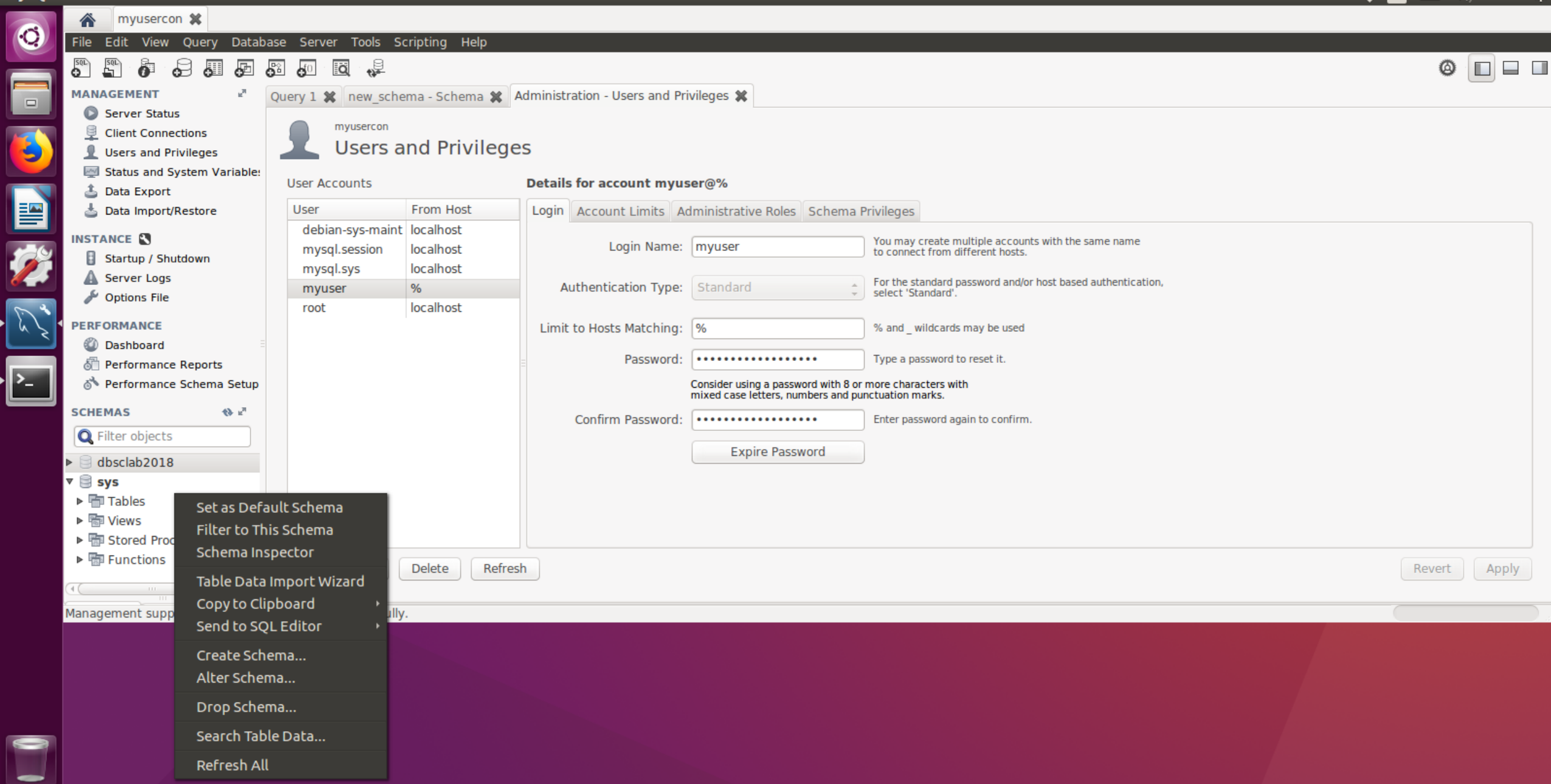


Create a new DB
and
import some schemas

MYSQL: IMPORT DATA OF LABS

- New DB
 - dbslab2018





The screenshot shows the MySQL Workbench interface with the 'Users and Privileges' window open. The window is titled 'myusercon' and 'Users and Privileges'. It displays a list of user accounts and details for the 'myuser@%' account.

MANAGEMENT

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INSTANCE

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PERFORMANCE

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- Performance Schema Setup

SCHEMAS

Filter objects

dbslab2018

sys

- Tables
- Views
- Stored Proc
- Functions

User Accounts

User	From Host
debian-sys-maint	localhost
mysql.session	localhost
mysql.sys	localhost
myuser	%
root	localhost

Details for account myuser@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: myuser You may create multiple accounts with the same name to connect from different hosts.

Authentication Type: Standard For the standard password and/or host based authentication, select 'Standard'.

Limit to Hosts Matching: % % and _ wildcards may be used

Password: Type a password to reset it.

Consider using a password with 8 or more characters with mixed case letters, numbers and punctuation marks.

Confirm Password: Enter password again to confirm.

Expire Password

Delete Refresh

Revert Apply

Context Menu:

- Set as Default Schema
- Filter to This Schema
- Schema Inspector
- Table Data Import Wizard
- Copy to Clipboard
- Send to SQL Editor
- Create Schema...
- Alter Schema...
- Drop Schema...
- Search Table Data...
- Refresh All

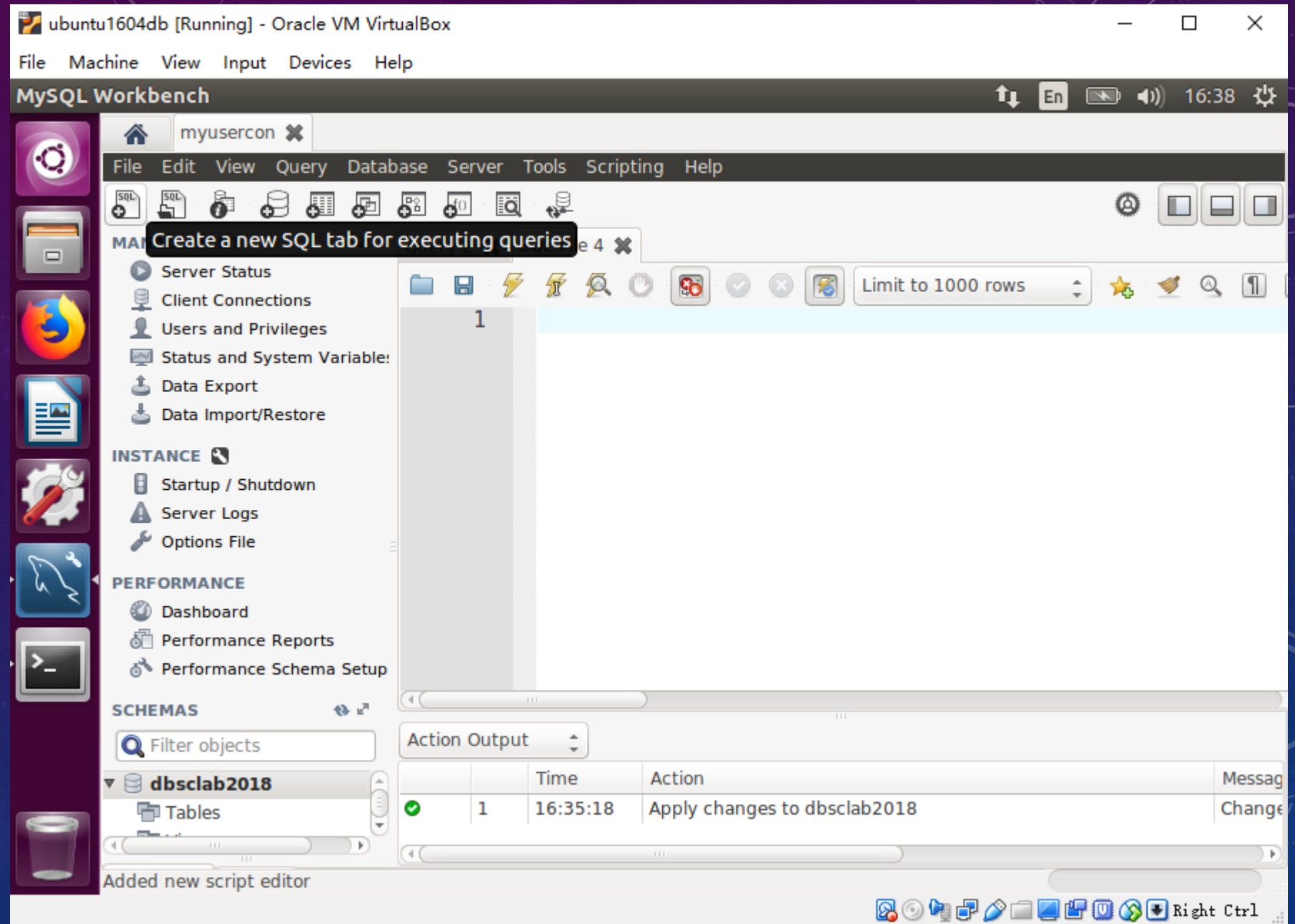
The screenshot shows the MySQL Workbench interface with the 'Manage Server Connections' dialog box open. The dialog box has a tabbed interface with 'Connection' selected. The 'Connection Name' is 'myusercon'. The 'Connection Method' is 'Standard (TCP/IP)'. The 'Parameters' tab is active, showing the following fields:

- Hostname: 127.0.0.1
- Port: 3306
- Username: myuser
- Password: (masked with a key icon and 'Clear' button)
- Default Schema: dbslab2018 (circled in red)

The background shows the MySQL Connections list with 'Local instance 3306' and 'myusercon' listed. The 'Models' pane shows 'sakila_full' and 'sakila' models. The 'Shortcuts' pane lists various links like 'MySQL Utilities', 'Database Migration', etc.

MYSQL: IMPORT DATA OF LABS

- New DB
 - dbslab2018





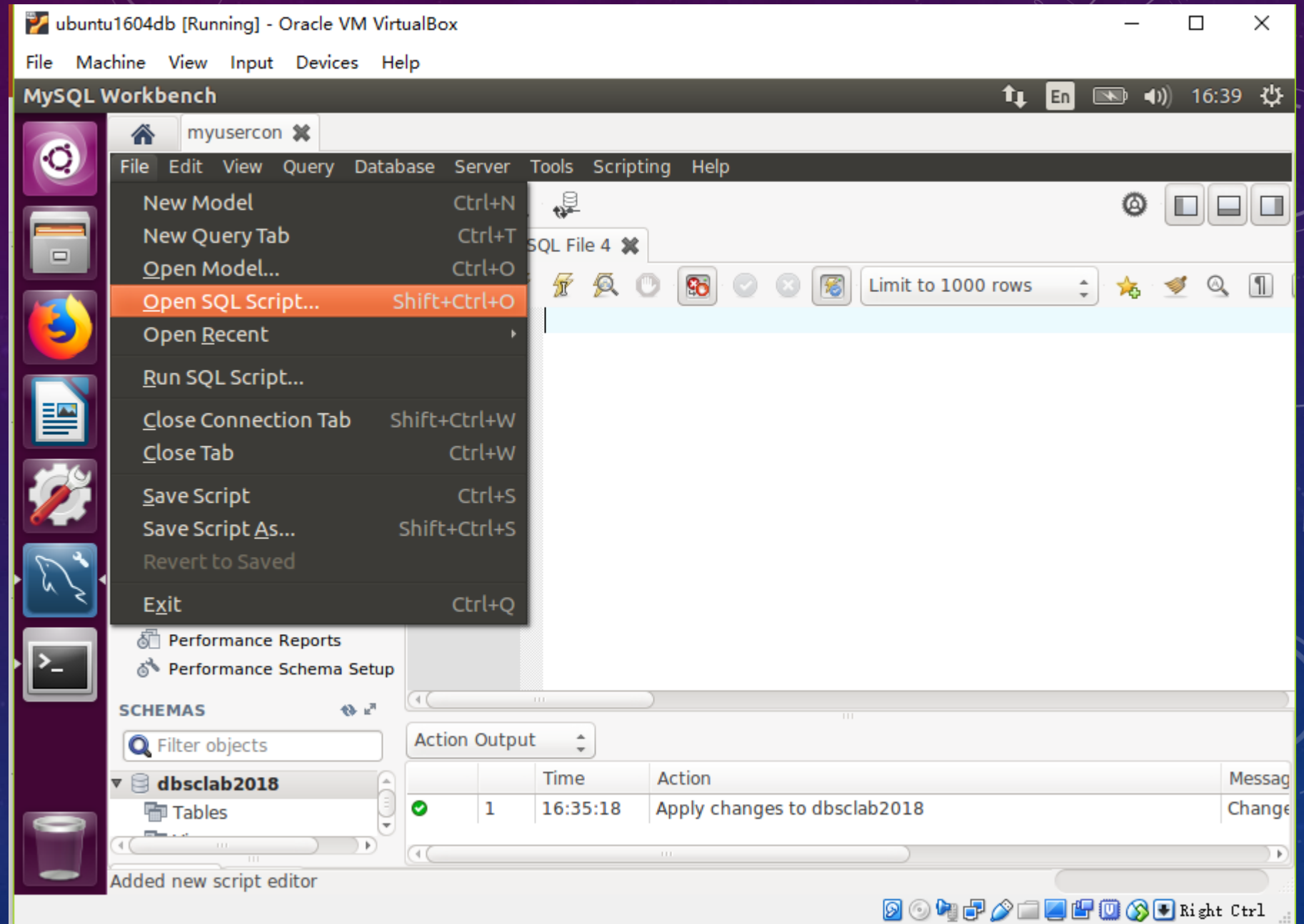
create table stu(
id varchar(18), name varchar(18), age int);

insert into stu
values('123','xiaoming',18);

select * from stu;

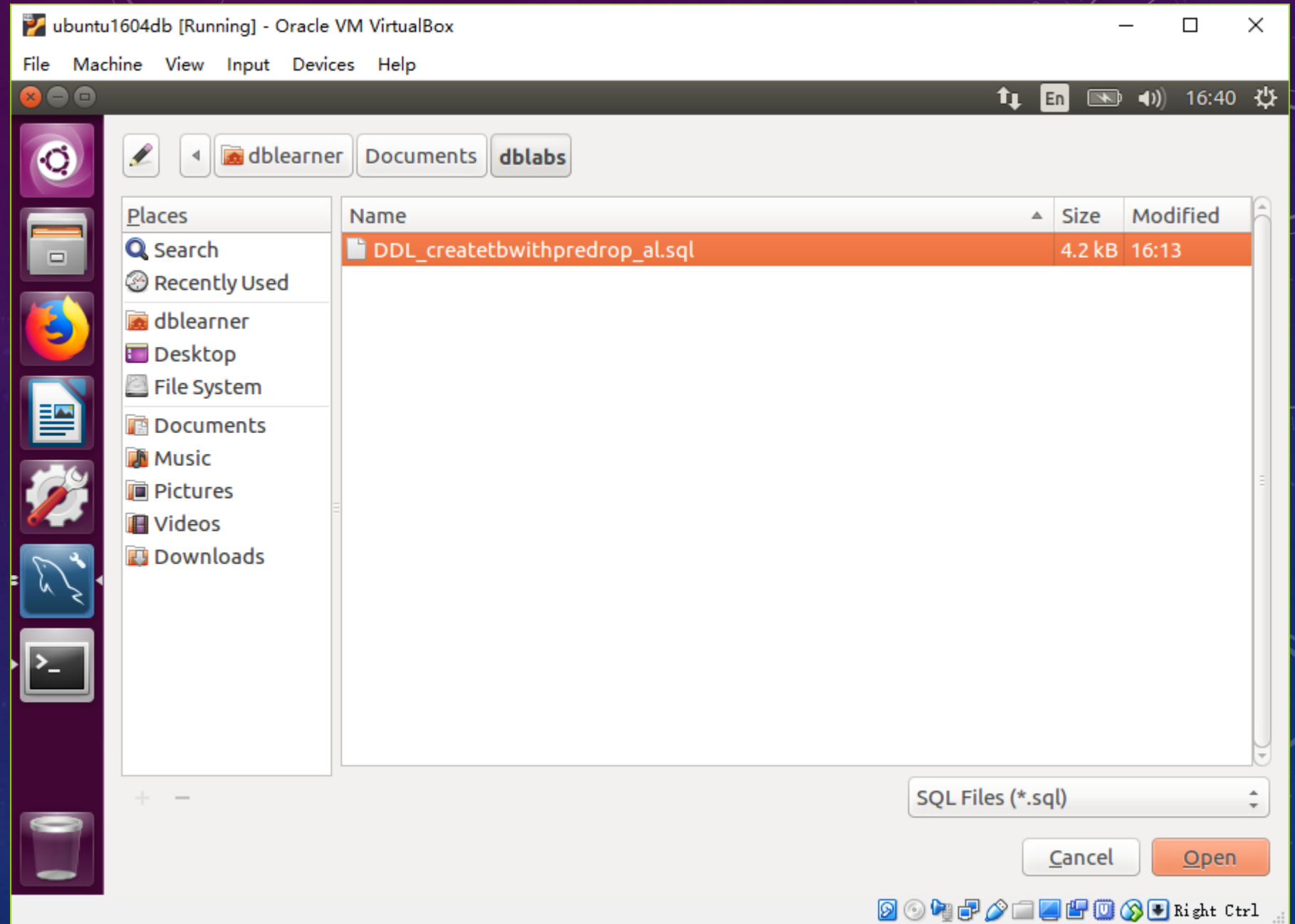
MYSQL: IMPORT DATA OF LABS

- New DB
 - dbslab2018



MYSQL: IMPORT DATA OF LABS

- New DB
 - dbsclab2018



ubuntu1604db [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

myusercon

File Edit View Query Database Server Tools Scripting Help

MANAGEMENT

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PERFORMANCE

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SCHEMAS

Filter objects

dbslab2018

- Tables
 - advisor
 - classroom
 - course
 - department
 - instructor
 - prereq
 - section
 - student
 - takes
 - teaches

Query 2 SQL File 4 DDL_createtbwithpredrop_al

Limit to 1000 rows

```
31 credits numeric(2,0) check (credits > 0),
32 primary key (course_id)
33 );
34
35 • alter table `course` add constraint `course_fk1`
36   foreign key (`dept_name`) references `department` (`dept_name`)
37   on delete set null;
38
39 • create table instructor
40   (ID varchar(5),
41    name varchar(20) not null,
42    dept_name varchar(20),
43    salary numeric(8,2) check (salary > 29000),
44    primary key (ID)
45   );
46
47 • alter table `instructor` add constraint `instructor_fk1`
48   foreign key (`dept_name`) references `department` (`dept_name`)
49   on delete set null;
50
51 create table section
```

Action Output

		Time	Action	Message	Duration / Fetch
✓	28	16:40:42	alter table `takes` add constraint `takes_fk2` foreign key (ID...	Records: 0 Duplicates: 0 Warnings: 0	0.036 sec
✓	29	16:40:42	alter table `takes` add constraint `takes_fk2` foreign key (ID...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.036 sec
✓	30	16:40:42	create table advisor (s_ID varchar(5), i_ID...	0 row(s) affected	0.015 sec
✓	31	16:40:42	create table time_slot (time_slot_id varchar(4), ...	0 row(s) affected	0.011 sec
✓	32	16:40:42	create table prereq (course_id varchar(8), pre...	0 row(s) affected	0.013 sec

Query Completed

Right Ctrl

MYSQL: IMPORT DATA OF LABS

- New DB
 - dbsclab2018

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ubuntu1604db [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

MySQL Workbench

myusercon

File Edit View Query Database Server Tools Scripting Help

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SCHEMAS

Filter objects

- instructor
- Columns
 - ID

Query 2 X DDL_createtbwithpredrop_al X

Limit to 1000 rows

```
1 • select ID,name,dept_name from instructor;
```

Result Grid

#	ID	name	dept_name
*	NULL	NULL	NULL

instructor 3 X

Action Output

	Time	Action	Message
✓	35	16:43:59	select ID,name,dept_name from instructor LIMIT 0, 1000

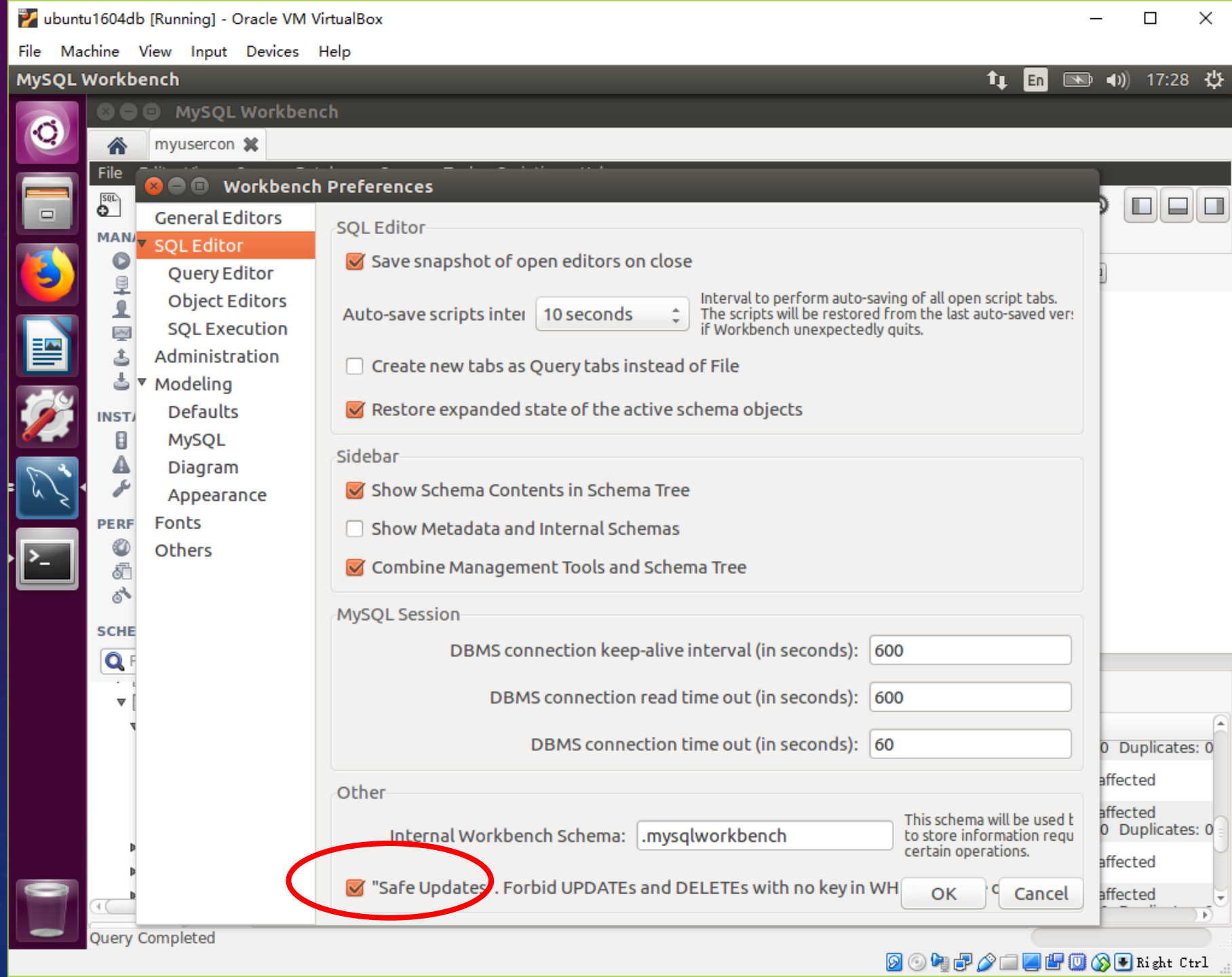
0 row

Query Completed

MYSQL: IMPORT DATA OF LABS

- New DB
 - dbsclab2018
 - Disable Safe Updates
- Restart workbench

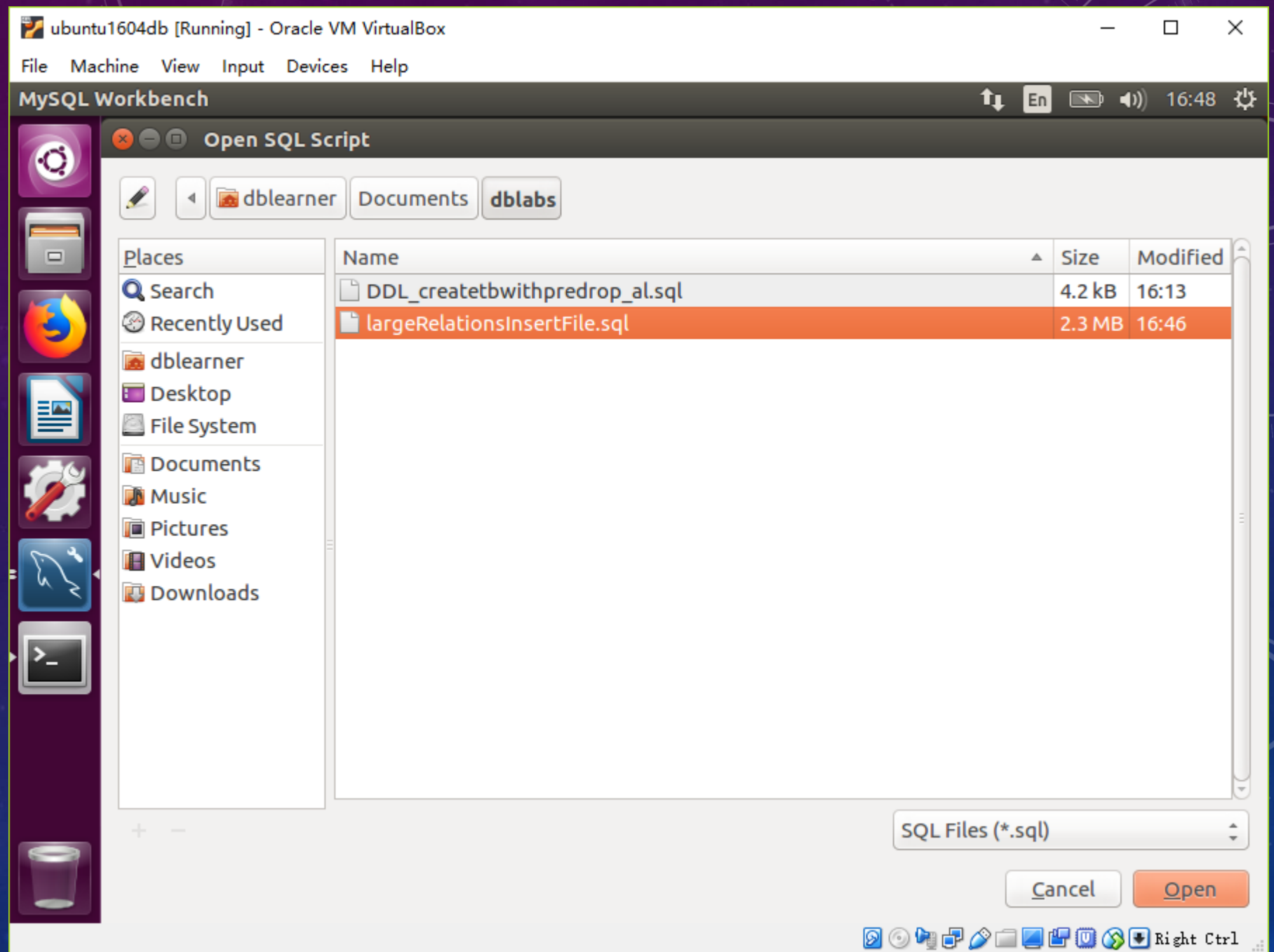
©LXD



MYSQL: IMPORT DATA OF LABS

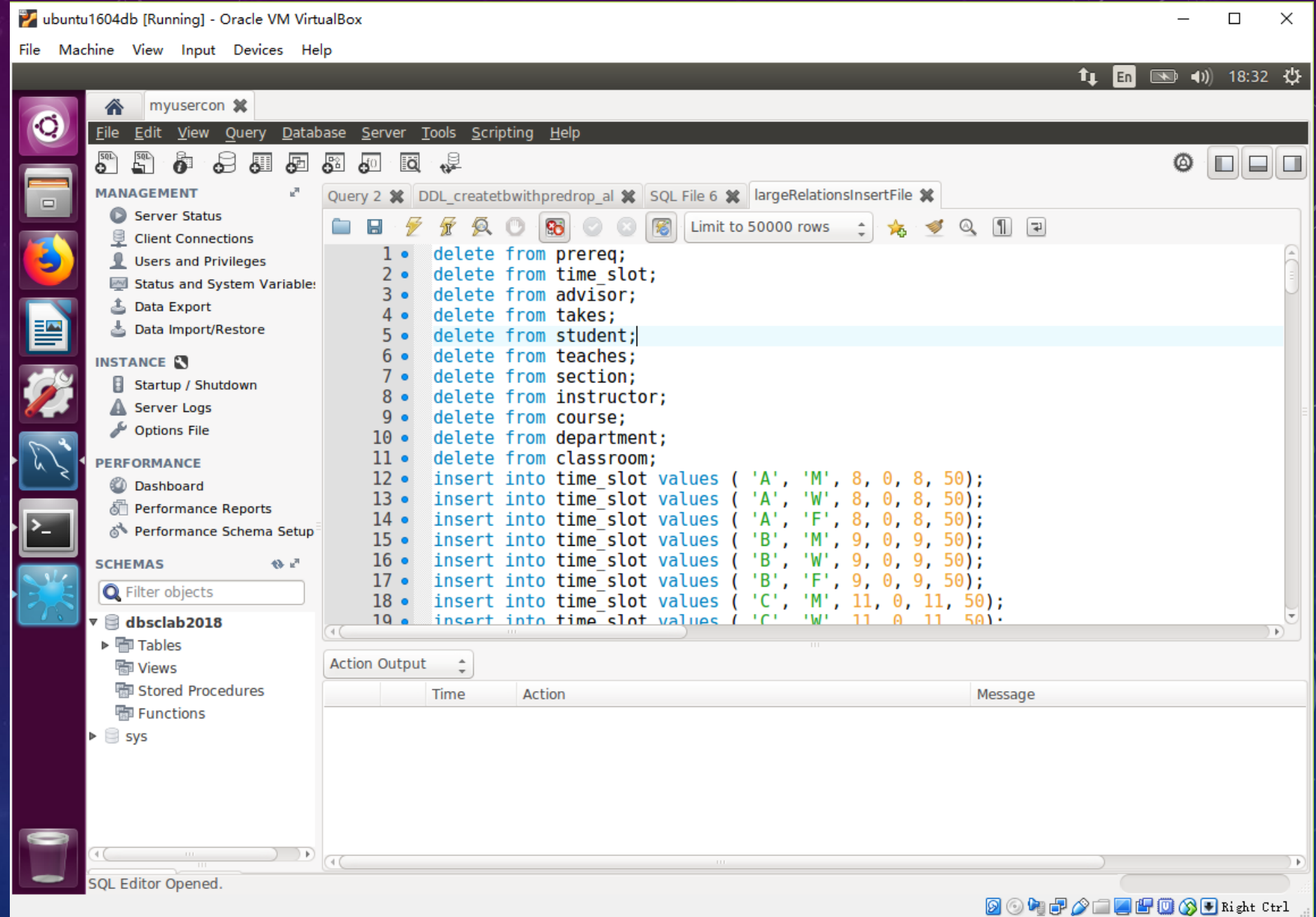
- New DB
 - Dbsclab2018
 - Batch import

©LXD



MYSQL: IMPORT DATA OF LABS

- New DB
 - Dbsclab2018
 - Batch import



MYSQL: IMPORT DATA OF LABS

- New DB
 - Dbsclab2018
 - Batch import

```
$mysql -umyuser -p  
show databases;  
use dbsclab2018;  
source largeRelationsInsertFile.sql;  
commit;  
quit;
```


SIMPLE QUERY STATEMENT

SIMPLE QUERY STATEMENT

- `SELECT * FROM department`
- `select dept_name, budget from department`
- `select * from student where dept_name='History'`

QUIZ 4

- 创建一个员工表，其包括员工工号、姓名、年龄、性别、联系方式、入职时间、工资，其中性别的值为“男”或“女”。



THANKS!

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