

How to install the IFS mock-up MySQL Database

Purpose

The scripts in this repository can be used to create the IFS mock-up MySQL database and all tables within this database. This is work in progress (about 170 of the planned 210 tables are already included), but only minor tables are still missing.

Requirements

The following programs need to be installed on your computer in order to run the scripts properly:

- [Python](#) 3.8 or higher
- [MySQL community server](#)
- Python module: mysql.connector-python

For the installation of *mysql.connector-python* we recommend using pip3, running the following from the command line:

```
pip3 install mysql.connector-python
```

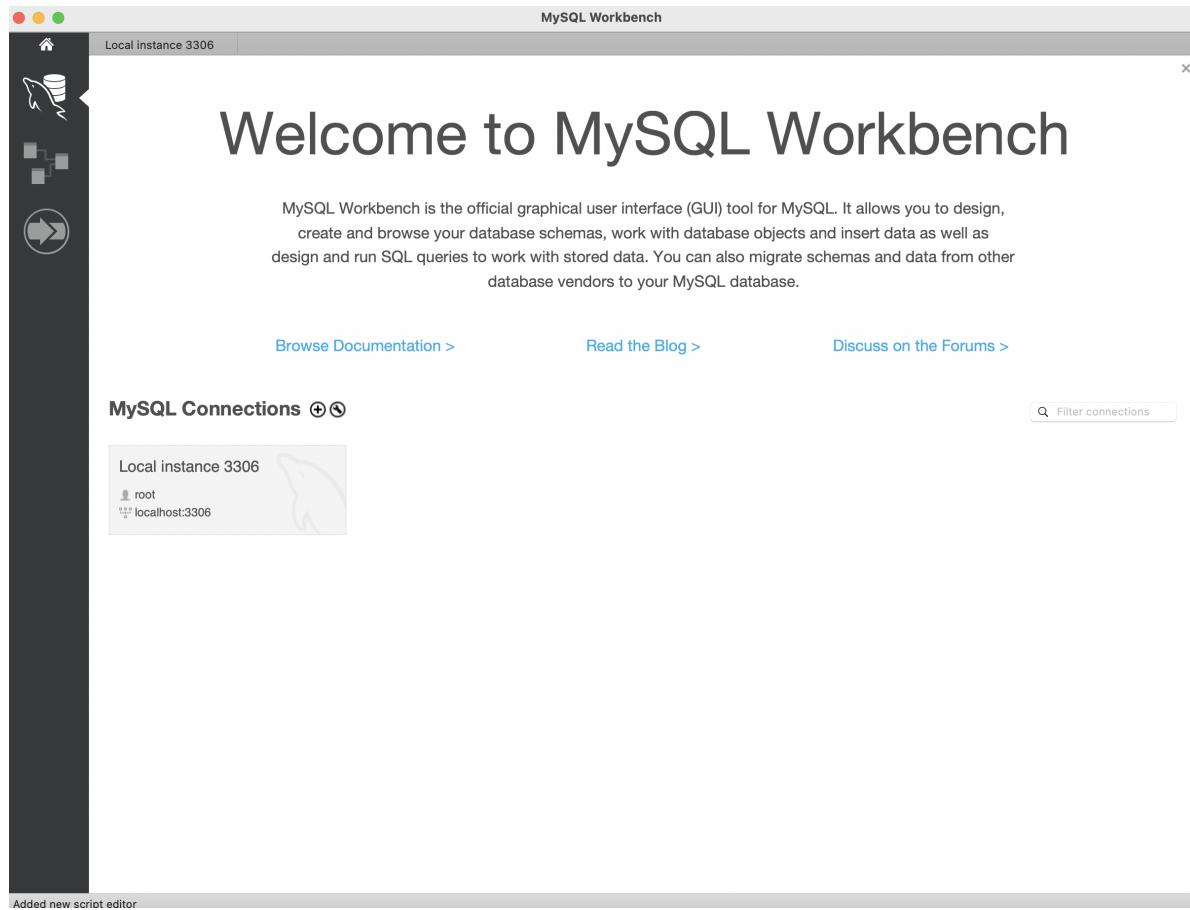
Furthermore, we recommend using the [MySQL Workbench](#) to make the necessary local configurations.

In the Python scripts the connector uses the following configuration:

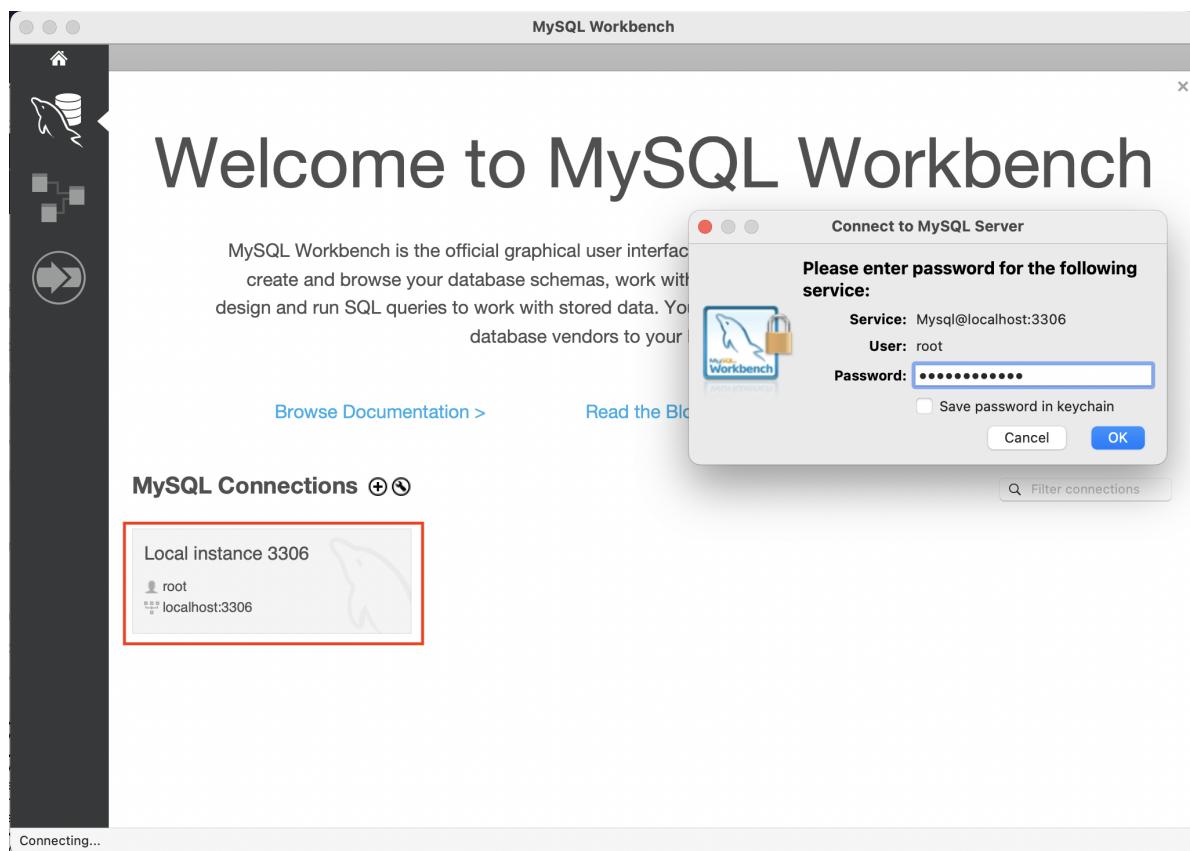
- host="localhost"
- user="IFS"
- password="IFS_pw"
- database="Mock_up_DB"

Create Connection IFS and User IFS

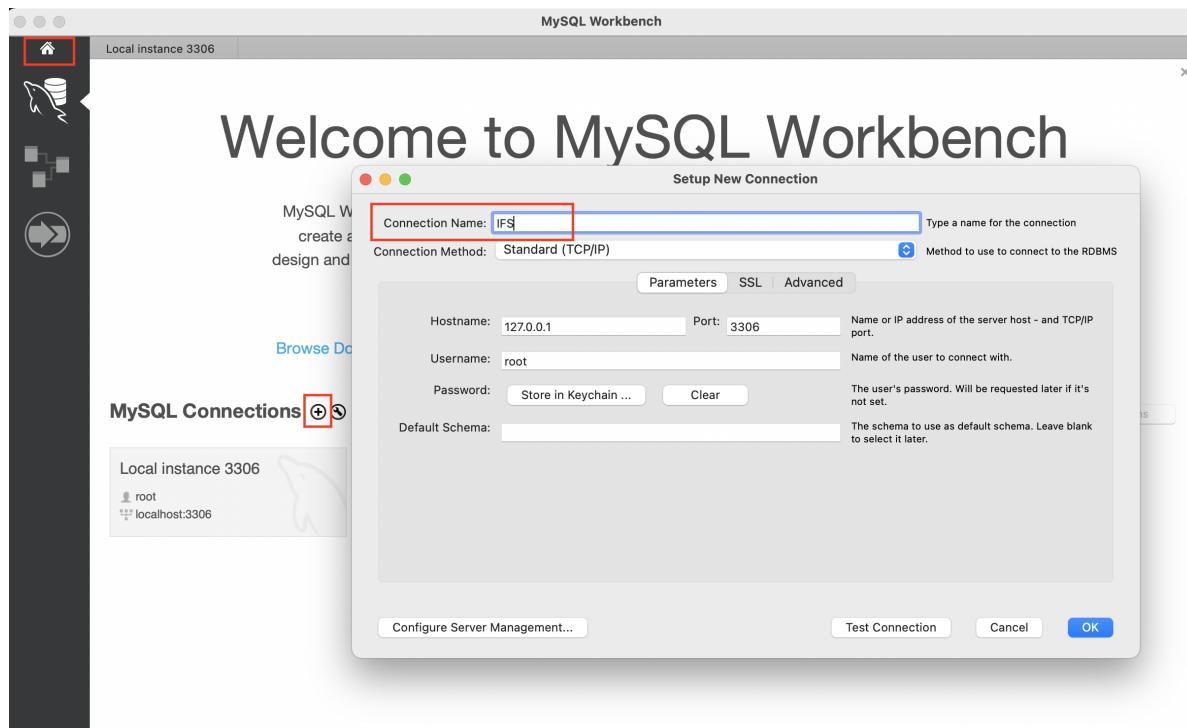
When you open MySQL Workbench for the first time, your window should look like this:



You then have to connect to your MySQL Server. You need to enter the root password which you chose during the installation process of *MySQL community server*.

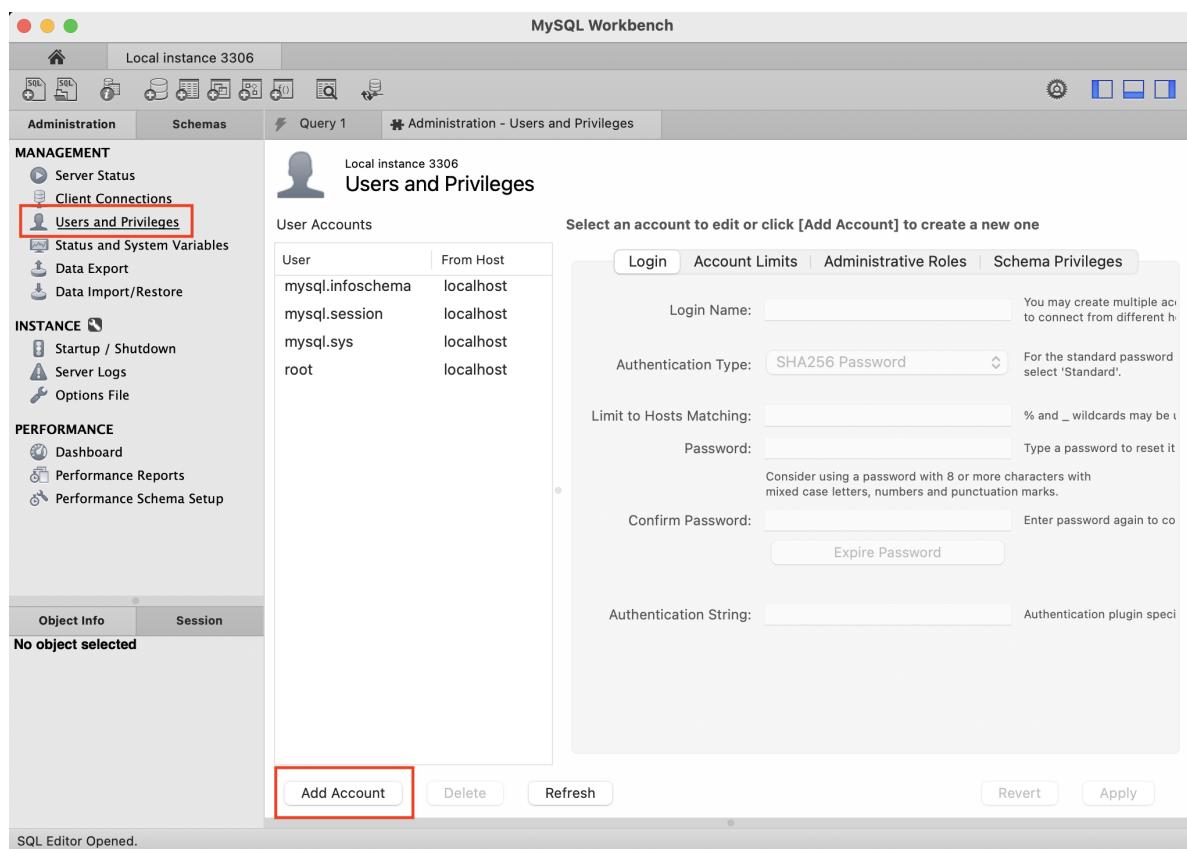


If this works properly, go back to the home menu (click on the home button on the top left). Click on the plus sign icon next to *MySQL Connections* and add a connection named *IFS*:

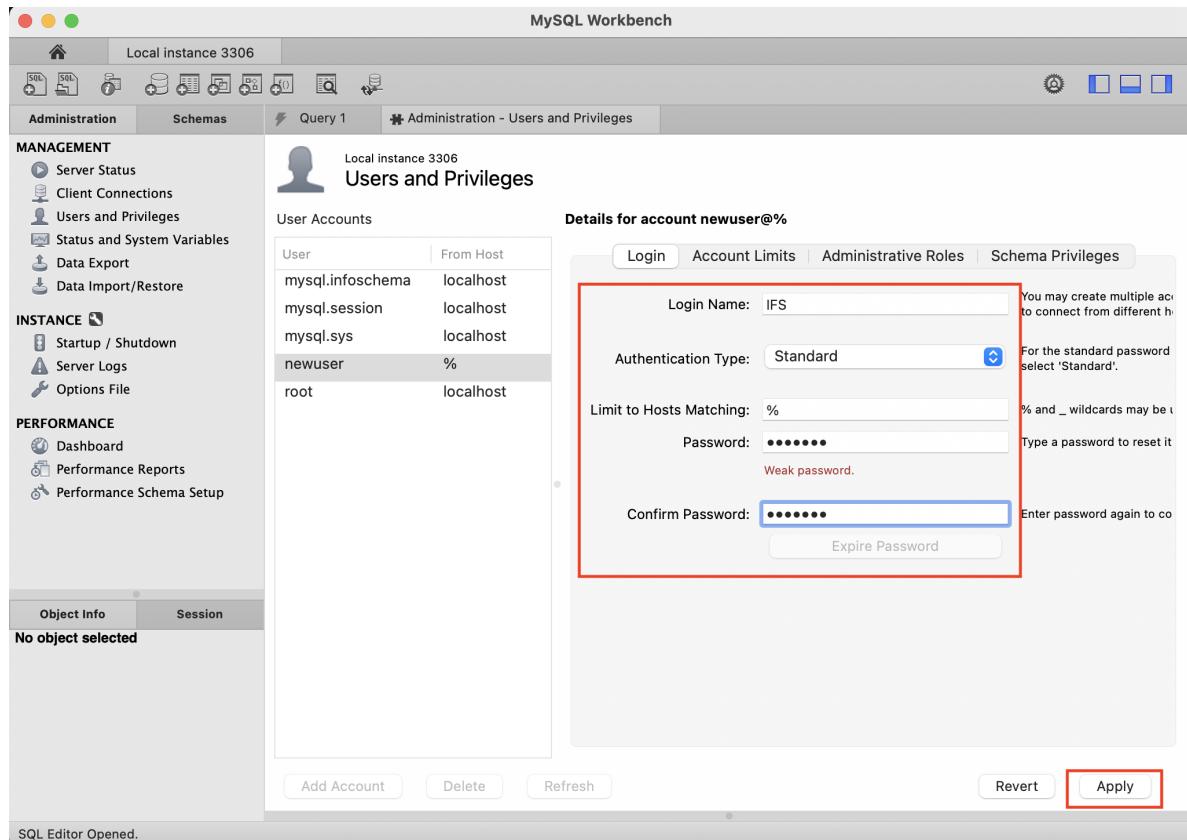


Afterwards, connect to *IFS* using your user root for login.

After having successfully connected to your server, your window should look like in the following image. Click *Users and Privileges* and then *Add Account*:

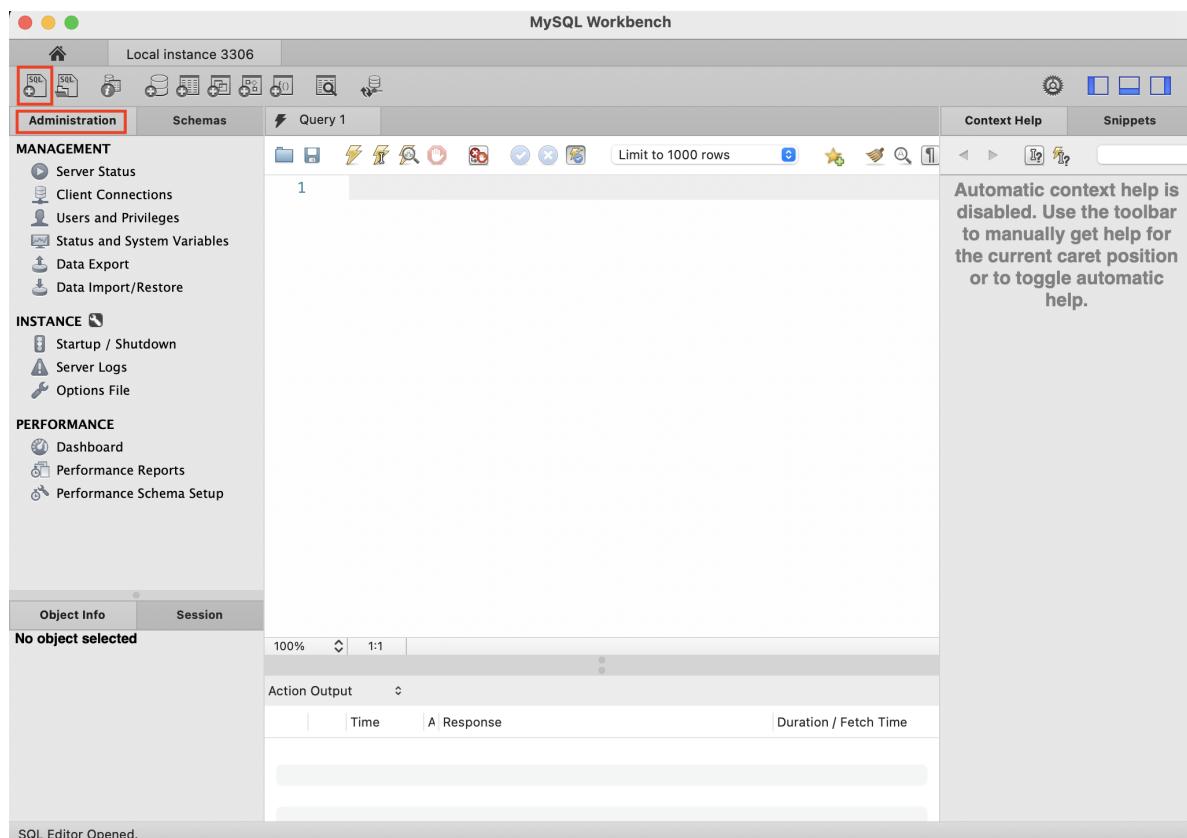


Add a user *IFS* with password *IFS_pw*:

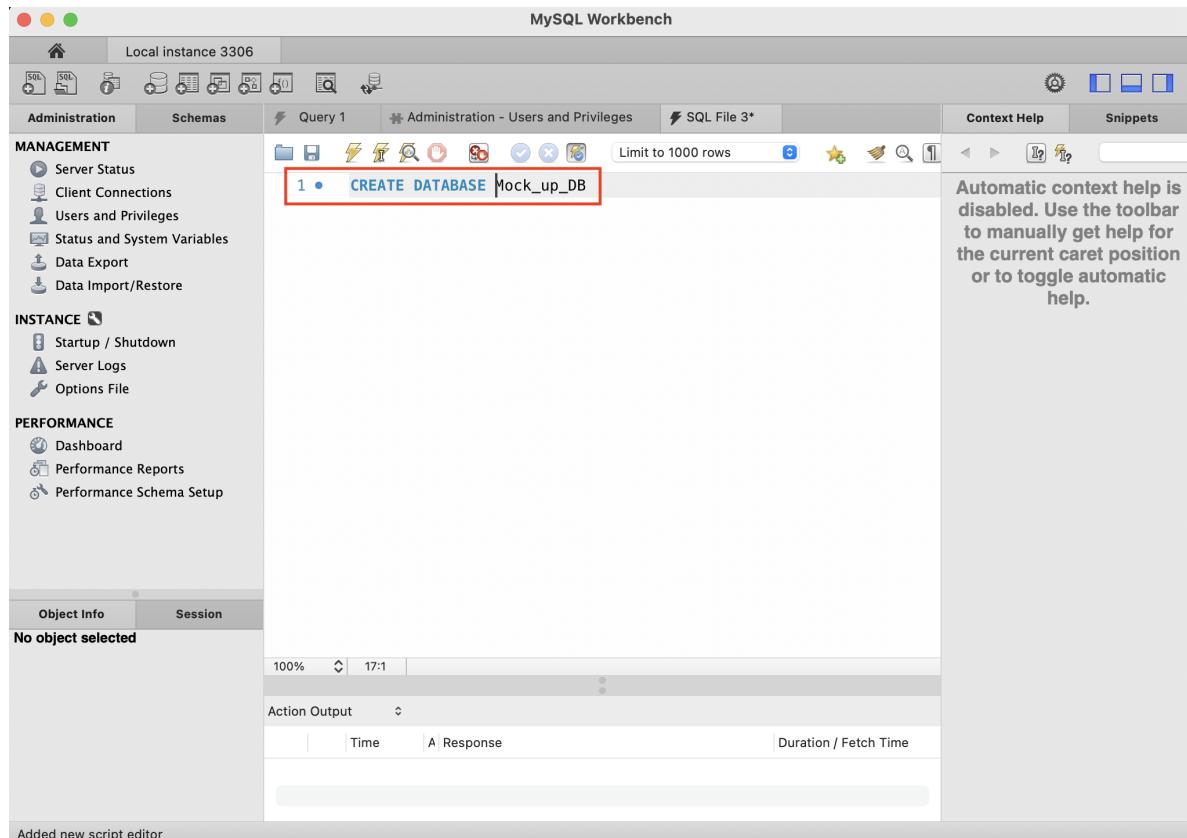


Create Database Mock-up-DB

Click on *SQL+* or the *Administration* tab:



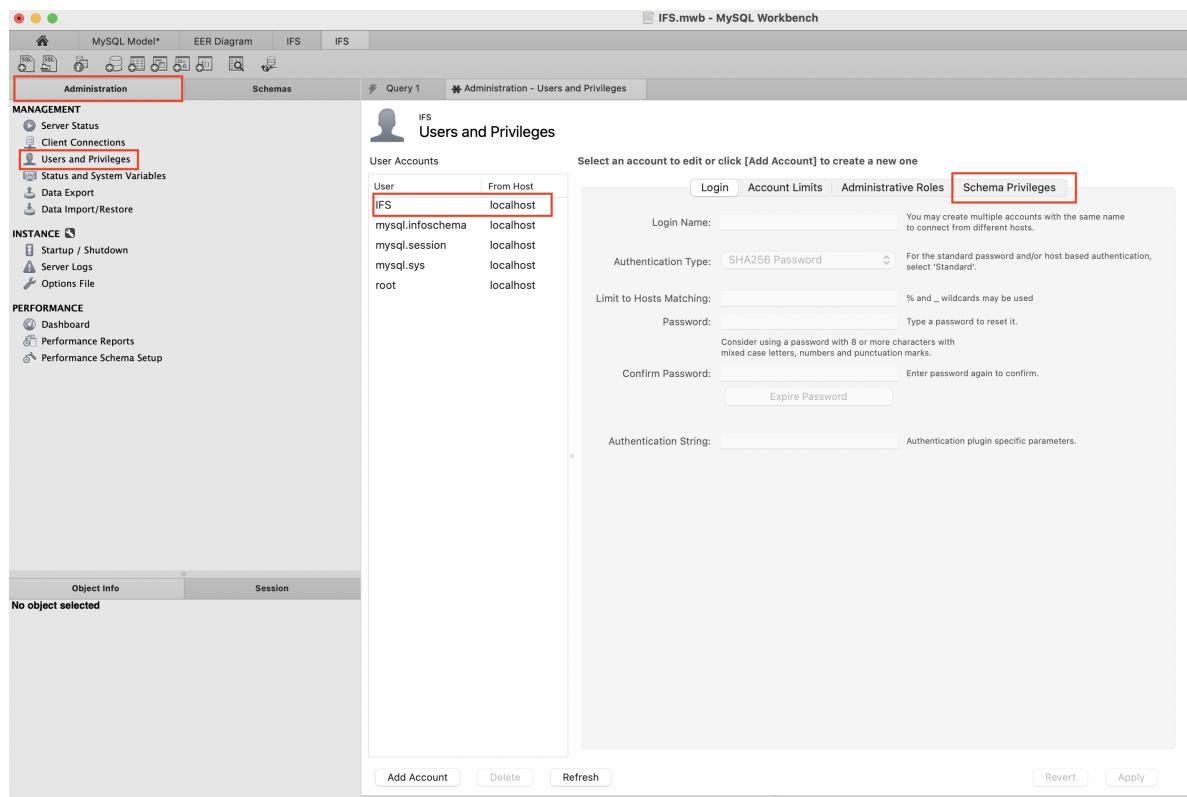
Enter on the command line `CREATE DATABASE Mock-up-DB` and hit enter.



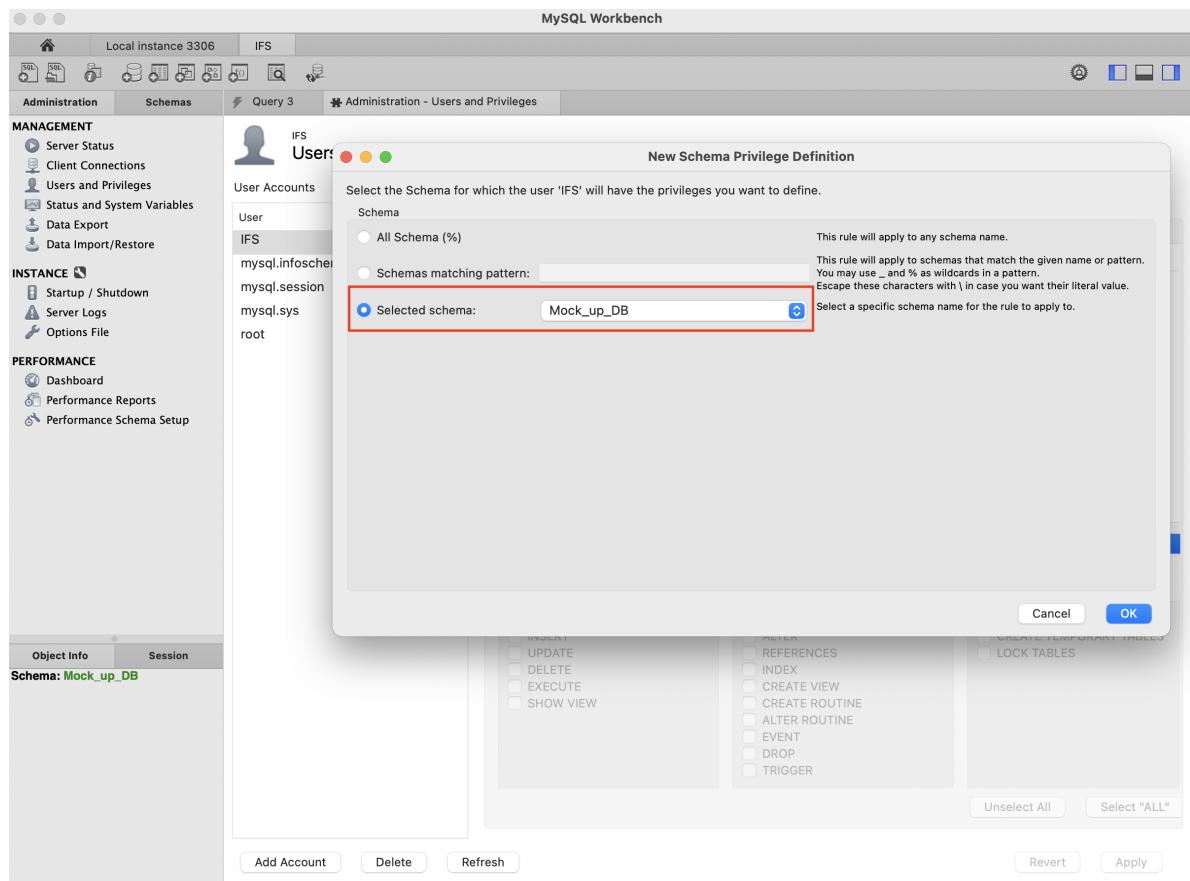
Now the database is created and your user `IFS` exists. You still have to provide your user with the necessary permissions to create and drop tables with the Python scripts.

Set Permissions for User IFS

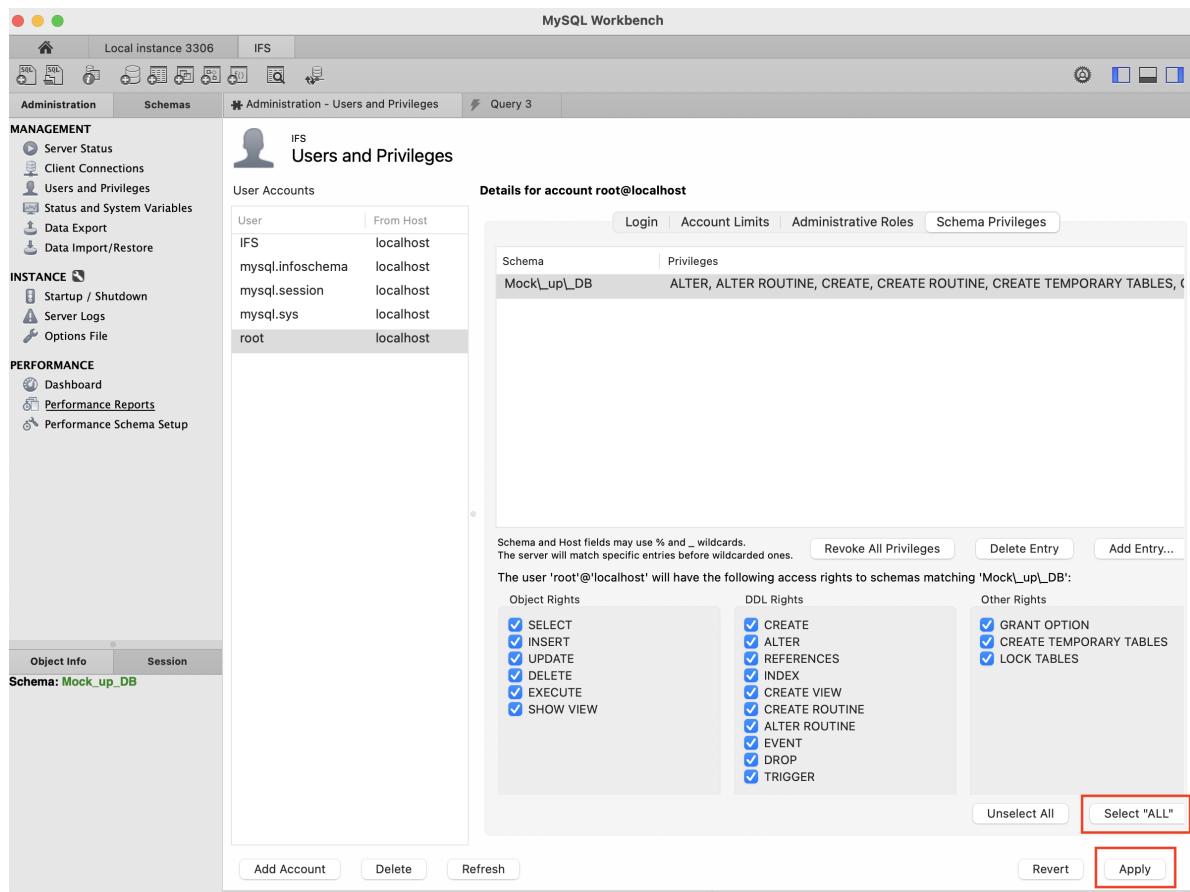
Click on tab *Administration*, select *Users and Privileges*, then the user `IFS` und click on tab *Schema Privileges*:



Select the schema for which you want to grant user IFS all permissions:



Click *Select all* and then *Apply*:



Now change to the tab *Administrative Roles* and grant DBA on top which will automatically select everything else, then hit *Apply*:

The screenshot shows the MySQL Workbench interface with the 'Administration - Users and Privileges' tab selected. On the left, there's a sidebar with 'MANAGEMENT', 'INSTANCE', and 'PERFORMANCE' sections. The main area displays 'User Accounts' for the 'IFs' schema, listing 'IFs' (localhost), 'mysql.infoschema' (localhost), 'mysql.session' (localhost), 'mysql.sys' (localhost), and 'root' (localhost). To the right, the 'Details for account IFS@localhost' window is open, showing the 'Administrative Roles' tab. This tab lists various roles with their descriptions. The 'DBA' role is selected and highlighted with a red box. Below the list is a table of 'Global Privileges' with many checkboxes checked, also highlighted with a red box. At the bottom right of the 'Details' window, the 'Apply' button is highlighted with a red box.

Run Python Scripts

Now you are ready to create the tables of the database with the Python scripts. Change to folder *IFS_DB_project/Mock_up_data_modeling* and run the script *main_mock_up_db.py*:

```
python3 main_mock_up_db.py
```

This will create all tables of the database.

How you can visualize the data model in MySQL Workbench is explained in the document [ER-Diagram MySQL Workbench.pdf](#).

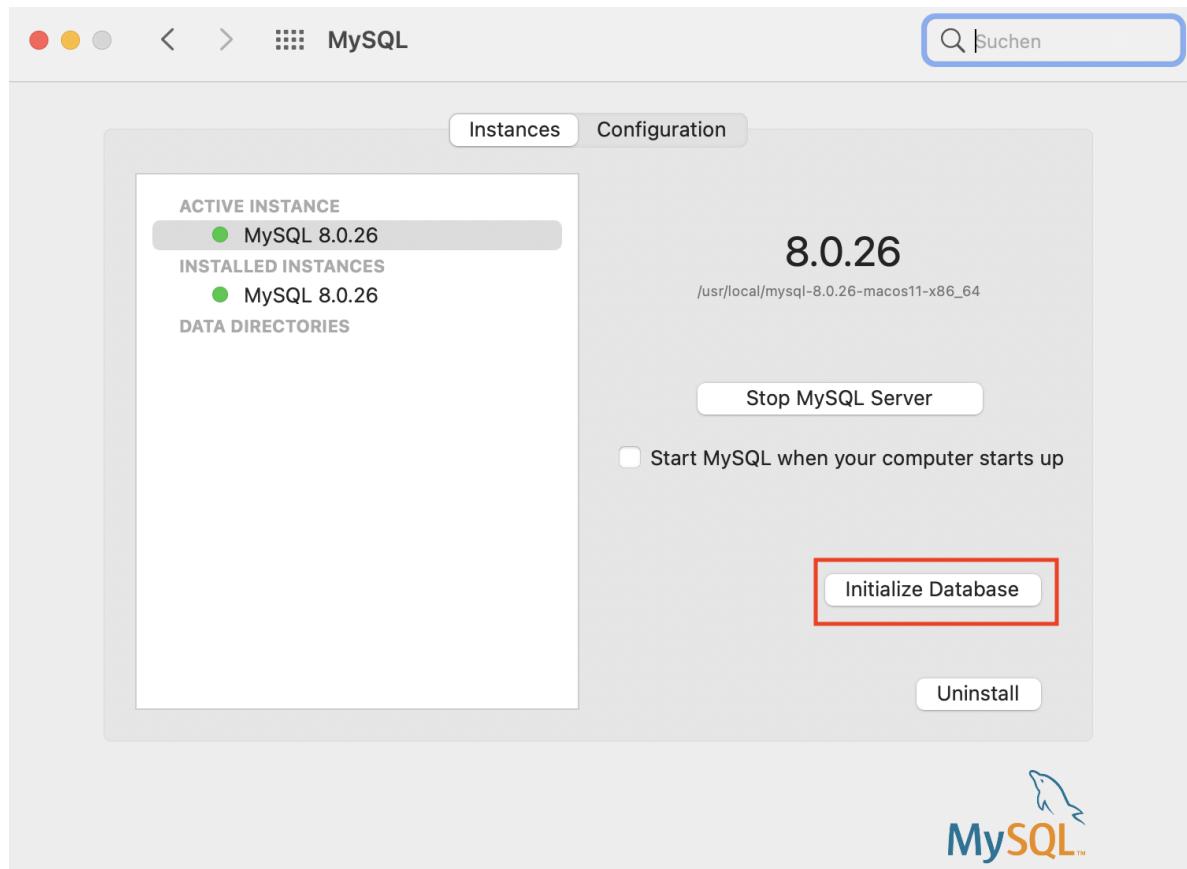
Trouble Shooting on MacOS

If you receive an error message such as

```
ERROR 1045 (28000): Access denied for user ...
```

when trying to create the tables on MacOS, you can try whether a simple stopping and re-starting of the MySQL Server in the system settings solves the problem.

If this does not help, it may be necessary to go to the system settings and hit the *Initialize Database* button:



Enter a password for your *root* user - it may be the same which you used before - in the pop-up window and click *OK*. Then you have to enter your MacOS password and to click *OK* once more.

In a terminal window, change to the folder `/usr/local/mysql/bin`.

There, type `mysql -u root -p [your password here]`

Afterwards it may be necessary to create your user and project again.