

Database Techniques

Seminar Report

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Managing user privileges

The task for managing user privileges entailed creating a user and granting/ revoking privileges. Then creating a **backupAdmin** named Adam before removing their account.

Creating a user named Ahmed and GRANTing the SELECT, UPDATE, INSERT, DELETE and EXECUTE statements.

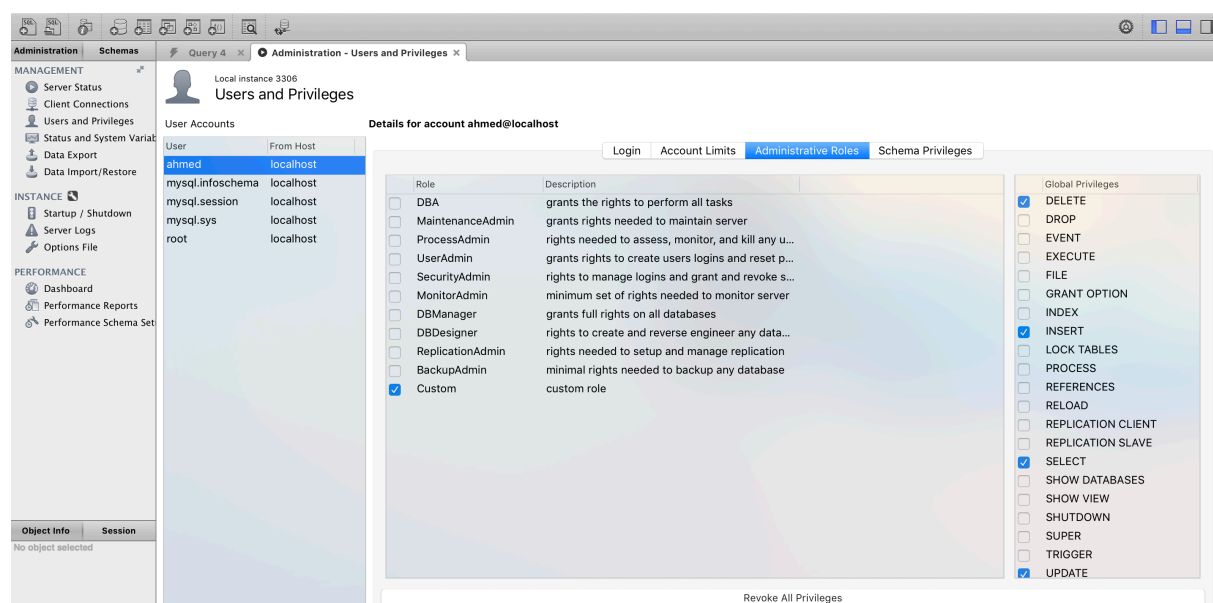
B. How is it done in the shell using SQL?

```
MySQL SQL \connect root@localhost:3306
Creating a session to 'root@localhost:3306'
Please provide the password for 'root@localhost:3306':
Save password for 'root@localhost:3306'? [Y]es/[N]o/[e]x (default No):
Fetching schema names for autocompletion... Press ^C to stop.
Your MySQL connection id is 17
Server version: 8.0.13 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.

MySQL localhost:3306 ssl SQL CREATE USER 'ahmed'@'localhost' IDENTIFIED BY 'p@ssw0rd';
Query OK, 0 rows affected (0.1375 sec)

MySQL localhost:3306 ssl SQL GRANT SELECT,UPDATE, INSERT,DELETE ON *.* TO 'ahmed'@'localhost';
Query OK, 0 rows affected (0.1126 sec)
[
```

C. Result after GRANT statement

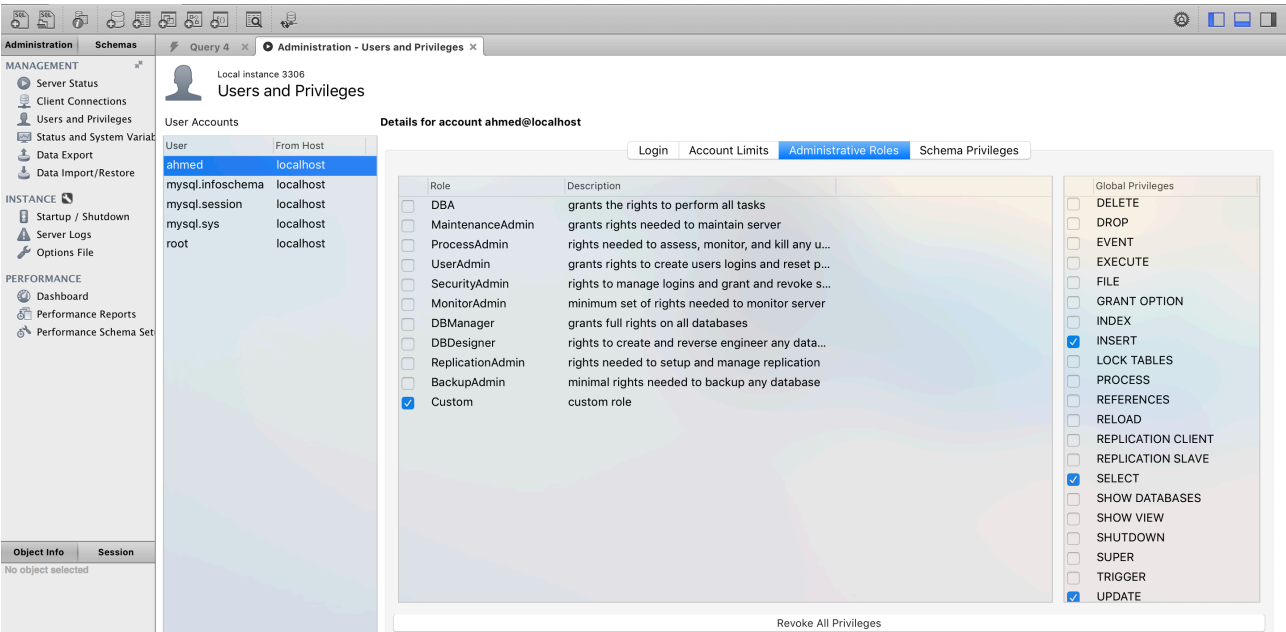


Using REVOKE statement to withdraw their ability to use the DELETE statement.

D. How is it done in the shell using SQL?

```
MySQL localhost:3306 ssl SQL REVOKE DELETE ON *.* FROM 'ahmed'@'localhost';  
  
Query OK, 0 rows affected (0.0896 sec)
```

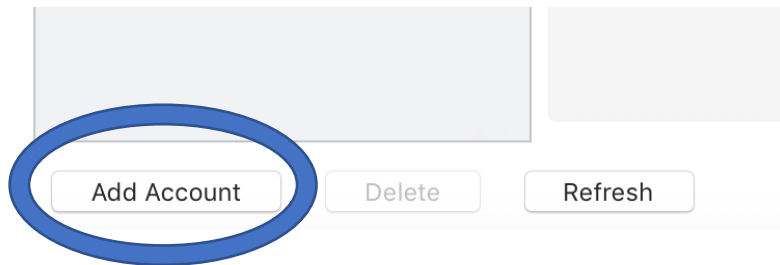
E. Result after REVOKE statement



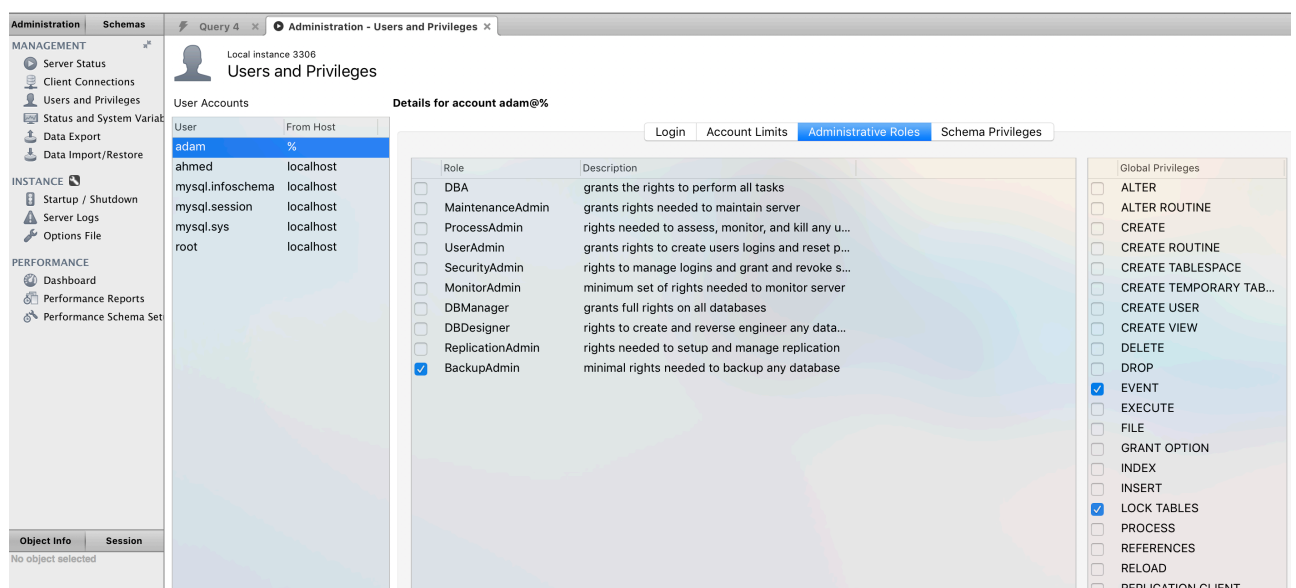
CREATE a backupAdmin named Adam that can be hosted from anywhere

F. how is it done on MySQL Workbench?

F.1 Usage of 'add Account' button to create Adams account

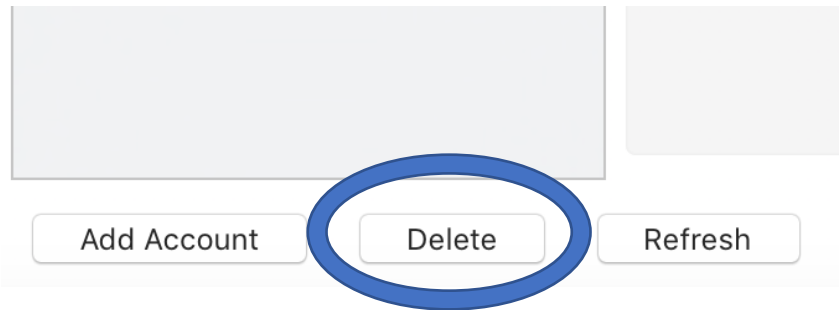


F.2 Demonstration of BackupAdmin Adam existing

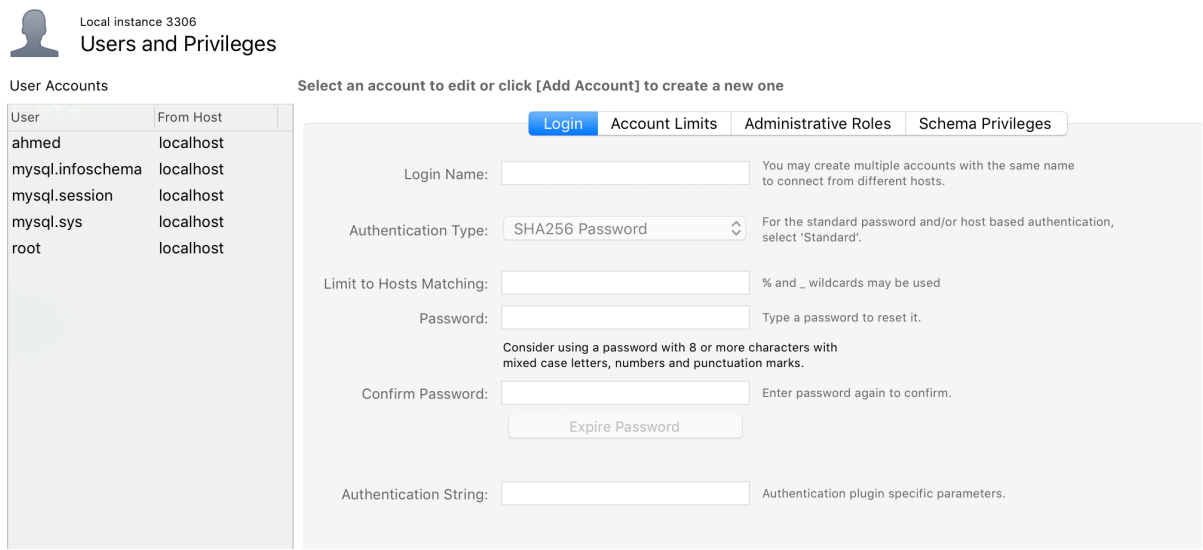


G. Deleting Adam’s account

G.1. Usage of delete account button



G.2 Demonstration of Adam’s account not existing



Administering your database

SHOW DATABASES statement

```
[ MySQL localhost:3306 ssl SQL show databases;
```

Database
classicmodels
Course - DA113
hospital
information_schema
local_job_app
mydb
mysql
office
performance_schema
sys
TV
world

```
12 rows in set (0.0080 sec)
```

SHOW TABLES statement

```
[ MySQL localhost:3306 ssl SQL use classicmodels
Default schema set to `classicmodels`.
Fetching table and column names from `classicmodels` for auto-completion... Press ^C to stop.

[ MySQL localhost:3306 ssl classicmodels SQL show tables
;

+-----+
| Tables_in_classicmodels |
+-----+
| customers                |
| employees                |
| offices                  |
| orderdetails             |
| orders                   |
| payments                 |
| productlines             |
| products                 |
+-----+
8 rows in set (0.0069 sec)
```

Mysqldump results

*Doesn't allow for dump as discussed in seminar

```
Ahmeds-MacBook-Pro:bin ahmedmohamud$ cd/user/local/mysql/bin>mysqldump -u root -p swifta123  
-h localhost local_job_app> /Users/ahmedmohamud/Desktop/seminar.sql  
-bash: mysqldump: Permission denied  
Ahmeds-MacBook-Pro:bin ahmedmohamud$ █
```

Securing MySQL Installation

N/A

Connecting a java program to the database

I connected the classicModels database found on canvas to java. The application is simple and consists of only two classes and 3 methods. they are:

1. A main method
2. One for retrieving all the data about the orders (executeQuery)
3. One for changing the status of the orders (executeUpdate)

The source code can be found in the appendix.

DatabaseConnection Class:

```
package tasks;

import java.sql.*;
import java.util.Scanner;

public class DatabaseConnection {
    String url =
"jdbc:mysql://127.0.0.1:3306/classicmodels?user=root&password=swiftA123&useSSL=false";

    Statement statement;
    ResultSet resultSet;
    Scanner input = new Scanner(System.in);
    int x;

    public DatabaseConnection() {
        try {
            Connection connection = DriverManager.getConnection(url);
            statement = connection.createStatement();

        } catch (SQLException ex) {
            System.out.println("Connection failed!");
        }
    }

    public void getOrders() {
        try {
            resultSet = statement.executeQuery(
                "select * from orders");
        } catch (SQLException ex) {
            System.out.println("QUERY failed!");
        }
        try {
            while (resultSet.next()) {
                System.out.println("ORDERS: "
                    + resultSet.getInt(1)+ ", "
                    + resultSet.getString(2)+ ", "
                    + resultSet.getString(3)+ ", "
                    + resultSet.getString(4)+ ", "
                    + resultSet.getString(5)+ ", "
                    + resultSet.getString(6)+ ", "
                    + resultSet.getInt(7)
                );
            }
        } catch (SQLException ex) {
            System.out.println("resultset failed!");
        }
    }

    public void update(String update){

        System.out.println("input the order number:");
        int orderN = input.nextInt();

        String s = "UPDATE orders SET status = '" + update + "' WHERE orderNumber = '"
+orderN + "' ";

        try{
            x=statement.executeUpdate(s);
            System.out.println(x);
        }catch(SQLException ex) {
            System.out.println("problem");
        }
    }
}
```

