

CNT 4714: Enterprise Computing

Fall 2023

Client User Creation Using The MySQL Workbench

Instructor : Dr. Mark Llewellyn HEC 236, 407-823-2790

Email: mark.llewellyn@ucf.edu

Office Hours via Zoom: M, T, & W: 4:00-5:00 pm Th 3:30-4:20pm

Office Hours Zoom Details: Meeting ID: 958 3198 1003
Passcode: 500758

Q&A Sessions via Zoom: Meeting ID: 969 6878 1427
Passcode: 453163

Department of Computer Science
University of Central Florida



Client User Creation In The MySQL Workbench

- For Project Three, in addition to the default root user, you need to create two new users `client1` and `client2` for the `project3` database and assign them specific privileges on the database. You'll also need to create a specific user named `project3app`.
- This set of slides steps you through that process using the MySQL Workbench.
- This can also be done via the MySQL command line client, however, it requires issuing specific GRANT commands and while providing finer grained privilege detail, goes a bit beyond what we need for this project.



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10

MANAGEMENT

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

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Object Info Session

No object selected

Action Output

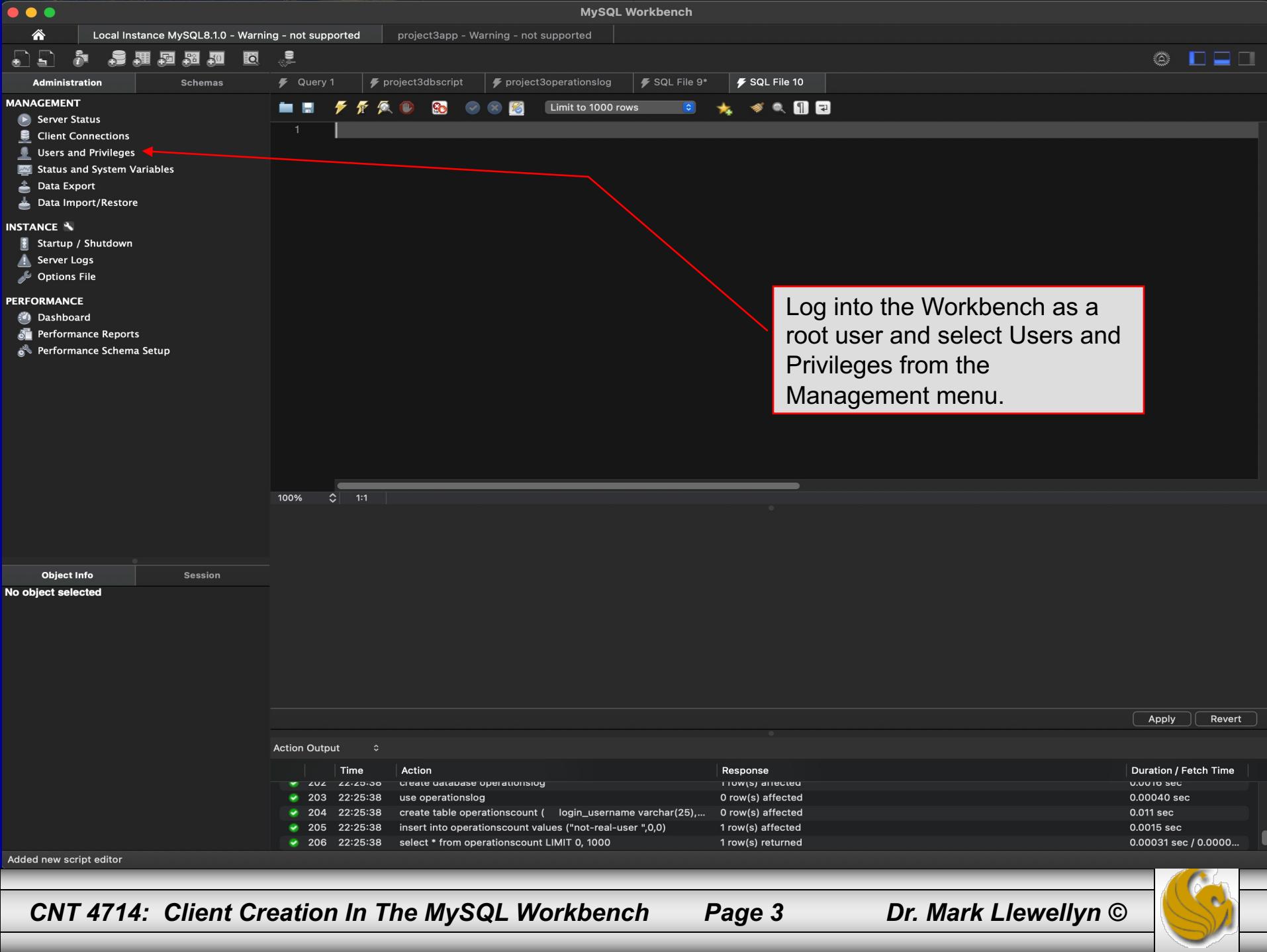
	Time	Action	Response	Duration / Fetch Time
✓ 202	22:25:30	Create Database operationslog	1 row(s) affected	0.0010 sec
✓ 203	22:25:38	use operationslog	0 row(s) affected	0.00040 sec
✓ 204	22:25:38	create table operationscount (login_username varchar(25),...	0 row(s) affected	0.011 sec
✓ 205	22:25:38	insert into operationscount values ("not-real-user ",0,0)	1 row(s) affected	0.0015 sec
✓ 206	22:25:38	select * from operationscount LIMIT 0, 1000	1 row(s) returned	0.00031 sec / 0.0000...

Added new script editor

Log into the Workbench as a root user and select Users and Privileges from the Management menu.

Apply Revert

CNT 4714: Client Creation In The MySQL Workbench Page 3 Dr. Mark Llewellyn ©



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
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User Accounts Local Instance MySQL8.1.0
Users and Privileges

Select an account to edit or click [Add Account] to create a new one

User	From Host
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Login Account Limits Administrative Roles Schema Privileges

Login Name: 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.

Confirm Password: Enter password again to confirm.

Authentication String: Authentication plugin specific parameters.

1. You'll now see a window that allows you to create user accounts and set permissions on those account. Currently you'll only have the root user and some system accounts by default.

2. Click the Add Account button here.

Add Account Delete Refresh Revert Apply

No object selected

Added new script editor



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
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PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Local Instance MySQL8.1.0
Users and Privileges

User Accounts

User	From Host
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
newuser	%
project3app	%
root	localhost

Details for account newuser@%

Login Name: client1 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. Weak password.

Confirm Password: ********* Enter password again to confirm.

Add Account Delete Refresh Revert Apply

No object selected

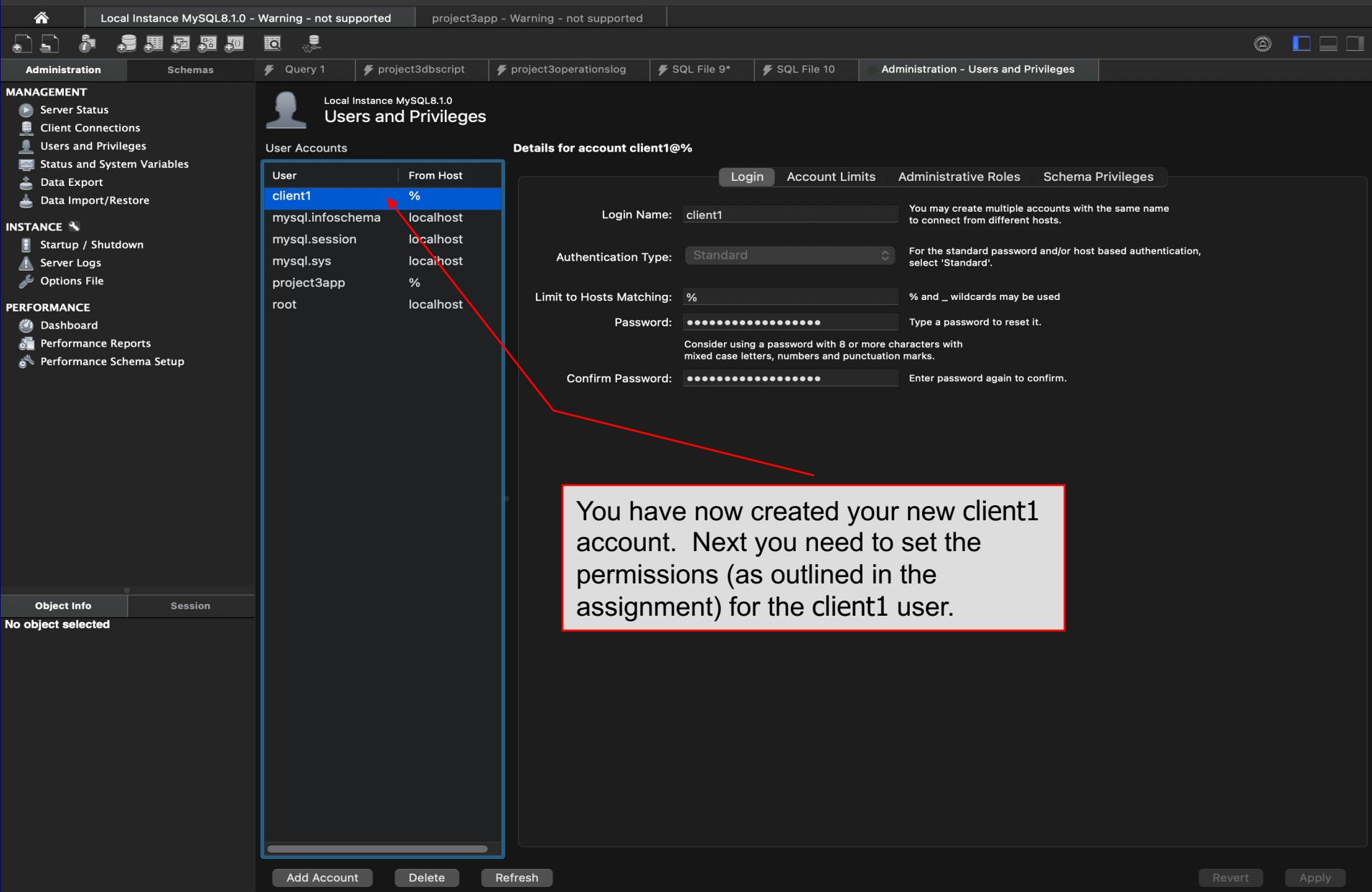
Object Info Session

1. Enter the information for the new user named "client1" as shown. Doesn't matter if the password is considered weak. (Use "client1" as the password)

2. Click the Apply button when finished

Added new script editor





You have now created your new client1 account. Next you need to set the permissions (as outlined in the assignment) for the client1 user.



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
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- Data Import/Restore

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- Options File

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- Dashboard
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- Performance Schema Setup

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: client1 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.

Select a user (client1 in this case) and then click the Schema Privileges tab on the right side of the window.

Add Account Delete Refresh Revert Apply

Created account 'client1@%'

CNT 4714: Client Creation In The MySQL Workbench Page 7 Dr. Mark Llewellyn ©

MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
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INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

**Local Instance MySQL8.1.0
Users and Privileges**

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema Privileges

Schema Privileges

From the Schema Privileges window click the Add Entry button. Notice that the various rights (permissions) are not accessible at the moment.

Object Info Session

No object selected

Object Rights

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW VIEW

DDL Rights

- CREATE
- ALTER
- REFERENCES
- INDEX
- CREATE VIEW
- CREATE ROUTINE
- ALTER ROUTINE
- EVENT
- DROP
- TRIGGER

Other Rights

- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES

Revoke All Privileges Delete Entry Add Entry...

Unselect All Select "ALL"

Revert Apply

Created account 'client1@%'

CNT 4714: Client Creation In The MySQL Workbench

Page 8

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Local Instance MySQL8.1.0 - Warning - not supported project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
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- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

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- Startup / Shutdown
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- Options File

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- Performance Reports
- Performance Schema Setup

User Accounts Local Instance MySQL8.1.0
Users and Privileges

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	
root	

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema Privileges

New Schema Privilege Definition

Select the Schema for which the user 'client1' will have the privileges you want to define.

Schema

All Schema (%)
 Schemas matching pattern:
 Selected schema:

This rule will apply to any schema name.
This rule will apply to schemas that match the given name or pattern.
You may use _ and % as wildcards in a pattern.
Escape these characters with \ in case you want their literal value.

Select a specific schema name for the rule to apply to.

bikedb
information_schema
mysql
operationslog
performance_schema
project3
sys

Add Entry... Cancel OK

No object selected

Object Info Session

Selected Schema

TRIGGER

Unselect All Select "ALL"

Revert Apply

client1@%
localhost
localhost
localhost
root
Selected schema: bikedb
information_schema
mysql
operationslog
performance_schema
project3
sys

Select the “Selected Schema” button and then select the **project3** database from the selection box. Then click OK.



You've now returned to the Schema Privileges window, but the rights (permissions) are now accessible. Go to next page.

MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9*

MANAGEMENT Server Status Client Connections Users and Privileges Status and System Variables Data Export Data Import/Restore

INSTANCE Startup / Shutdown Server Logs Options File

PERFORMANCE Dashboard Performance Reports Performance Schema Setup

Object Info Session

No object selected

Local Instance MySQL8.1.0
Users and Privileges

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
project3	none

Schema and Host fields may use % and _ wildcards.
The server will match specific entries before wildcarded ones.

The user 'client1'@ '%' will have the following access rights to the schema 'project3':

Object Rights

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW VIEW

DDL Rights

- CREATE
- ALTER
- REFERENCES
- INDEX
- CREATE VIEW
- CREATE ROUTINE
- ALTER ROUTINE
- EVENT
- DROP
- TRIGGER

Other Rights

- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES

Revoke All Privileges Delete Entry Add Entry... Unselect All Select "All"

Add Account Delete Refresh Revert Apply



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9+ SQL File 10 Administration - Users and Privileges

MANAGEMENT

- Server Status
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- Dashboard
- Performance Reports
- Performance Schema Setup

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
project3	SELECT

The client1 should have only selection privileges on the project3 database. Click that option only and click Apply.

Schema and Host fields may use % and _ wildcards.
The server will match specific entries before wildcarded ones.

The user 'client1'@'%' will have the following access rights to the schema 'project3':

Object Rights

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW

DDL Rights

- CREATE
- ALTER
- REFERENCES
- INDEX
- INSERT is also required for the ANALYZE TABLE, OPTIMIZE TABLE, and REPAIR TABLE table-maintenance statements.
- CREATE VIEW
- CREATE ROUTINE
- CREATE ROUTINE

Other Rights

- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES
- EVENT
- DROP
- TRIGGER

Revoke All Privileges Delete Entry Add Entry... Unselect All Select "ALL" Revert Apply

Add Account Delete Refresh



Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported | Query 1 | project3dbscript | project3operationslog | SQL File 9* | SQL File 10 | Administration - Users and Privileges

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

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

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- Startup / Shutdown
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PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
project3	SELECT

The new client1 now has only select privilege on the project3 database

Schema and Host fields may use % and _ wildcards.
The server will match specific entries before wildcarded ones.

Revoke All Privileges Delete Entry Add Entry...

Object Info Session

No object selected

Object Rights

- SELECT
- INSERT
- UPDATE
- DELETE
- EXECUTE
- SHOW VIEW

DDL Rights

- CREATE
- ALTER
- REFERENCES
- INDEX
- CREATE VIEW
- CREATE ROUTINE
- ALTER ROUTINE
- EVENT
- DROP
- TRIGGER

Other Rights

- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES

Unselect All Select "ALL"

Add Account Delete Refresh Revert Apply

Updated account 'client1@%'



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported

Administration Schemas Query 1 project3dbscript project3operationslog SQL File 9* SQL File 10 Administration - Users and Privileges

MANAGEMENT

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

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

User Accounts

User	From Host
client1	%
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
project3app	%
root	localhost

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
bikedb	SELECT
project3	SELECT

Schema and Host fields may use % and _ wildcards.
The server will match specific entries before wildcarded ones.

Revoke All Privileges Delete Entry Add Entry...

Object Info Session
No object selected

Add Account Delete Refresh

Unselect All Select "ALL"

Revert Apply

Repeat the steps on pages 8-11 for the client1 but this time give the same permissions for the **bikedb database. You should wind up with this picture.**

The screenshot shows the MySQL Workbench interface under the 'Administration' tab, specifically the 'Users and Privileges' section. On the left, a sidebar lists management, instance, and performance options. The main area displays 'User Accounts' with a table showing users like client1, mysql.infoschema, etc., and their host details. A red arrow points from a callout box to the 'Schema Privileges' tab in the top navigation bar of the central panel. The central panel shows the 'Details for account client1@%' with tabs for Login, Account Limits, Administrative Roles, and Schema Privileges. The Schema Privileges tab is active, showing a table with two rows: one for the 'bikedb' schema granting 'SELECT' privilege and another for the 'project3' schema granting 'SELECT' privilege. Below this table, a note says 'Schema and Host fields may use % and _ wildcards. The server will match specific entries before wildcarded ones.' At the bottom of the central panel, there are buttons for Revoke All Privileges, Delete Entry, and Add Entry... A callout box contains the instruction: 'Repeat the steps on pages 8-11 for the client1 but this time give the same permissions for the **bikedb** database. You should wind up with this picture.' The bottom of the screen has sections for Object Info (Session, No object selected), and buttons for Add Account, Delete, Refresh, Unselect All, Select "ALL", Revert, and Apply. The status bar at the bottom includes the course code CNT 4714, page number Page 13, and instructor name Dr. Mark Llewellyn ©.





Local Instance MySQL8.1.0 - Warning - not supported

project3app - Warning - not supported

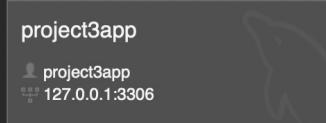
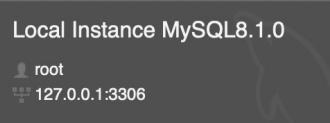
x

Welcome to MySQL Workbench

MySQL Workbench is the official graphical user interface (GUI) tool for MySQL. It allows you to design, create and browse your database schemas, work with database objects and insert data as well as design and run SQL queries to work with stored data. You can also migrate schema from other database vendors to your MySQL database.

[Browse Documentation >](#)[Read the Blog >](#)

Create a new connection for the client user. Click the “plus”sign.

MySQL Connections  Filter connections

Welcome to MySQL Workbench

MySQL Workbench is the official graphical user interface (GUI) tool for MySQL. It allows you to create and browse your database schemas, work with database objects and instances, design and run SQL queries to work with stored data. You can also migrate schemas between database vendors to your MySQL database.

MySQL Connections

Local Instance MySQL8.1.0

 root
127.0.0.1:3306

Setup New Connection

Connection Name: Type a name for this connection.

Connection Method: Standard (TCP/IP) Named Pipes Shared Memory JDBC

Parameters SSL Advanced

Hostname: Port: Name or IP address of the server and port.

Username: Name of the user to connect with.

Password: Store in Keychain ... The user's password. Will be requested later if it's not set.

Default Schema: The schema to use as default schema. Leave blank to select it later.

Enter the connection name and the username (client1), then click OK.

To test your work, go back to the main workbench screen and open the new connection to start querying as client1. Since you'll be doing this a lot, I'd suggest creating a connection for all the new users.



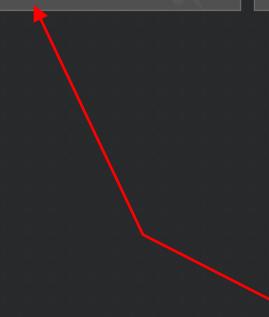
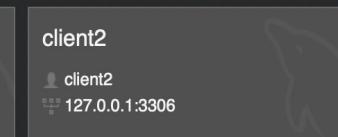
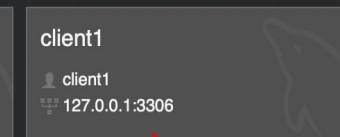
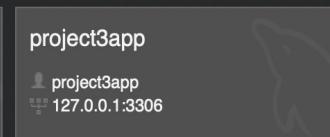
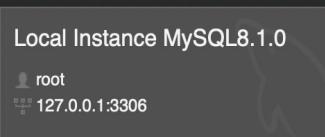


Welcome to MySQL Workbench

MySQL Workbench is the official graphical user interface (GUI) tool for MySQL. It allows you to design, create and browse your database schemas, work with database objects and insert data as well as design and run SQL queries to work with stored data. You can also migrate schemas and data from other database vendors to your MySQL database.

[Browse Documentation >](#)[Read the Blog >](#)[Discuss on the Forums >](#)

MySQL Connections

 Filter connections

Log in as the client1 user using the new connection.



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported | client1 - Warning - not supported | Local Instance MySQL8.1.0 - Warning - not supported | >

Administration Schemas Query 1

SCHEMAS Filter objects 1

bikedb project3

The Workbench after logging in on the client1 connection.

Notice that the only databases available to this user are the **project3** and **bikedb** databases. Those that were accessible to the root are not visible now.



Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported | client1 - Warning - not supported

Administration Schemas

SCHEMAS

Filter objects

bikedb
project3

Tables
Views
Stored Procedures
Functions

Query 1

Limit to 1000 rows

1 • select * from riders

Result Grid

Filter Rows: Search Edit: Export/Import:

ridername	teamname	nationality	num_pro_wins	gender
Alberto Contador	Astana	Spain	21	M
Alesandro Ballan	Lampre	Italy	21	M
Andy Schleck	Leopard-Trek	Luxembourg	35	M
Bradley Wiggins	Ti-Raleigh	Great Britain	13	M
Ceylin del Carmen Alvarado	Alpecin-Fenix	Netherlands	88	F
Chris Froome	Sky	Great Britain	23	M
Davide van der Poel	Jumbo-Visma	Alpecin	0	M
Dietrich Thurau	Ti-Raleigh	Germany	78	M
Elisa Balsamo	Trek-Segafredo	Italy	20	F
Elisa Borghini	Schenker	Italy	34	F
Fabian Cancellara	SaxoBank	Switzerland	58	M
Fedor den Hertog	Acqua & Sapori	Netherlands	20	M
Filippo Ganna	Ineos	Italy	25	M
Frank Schleck	Leopard-Trek	Luxembourg	28	M
George Hincapie	BMC	USA	22	M
Jens Voigt	SaxoBank	Germany	38	M
Johan Museeuw	Quick-Step	Belgium	120	M
Lizzie Armitstead	Boels-Dolmans	Great Britain	89	F
Marianne Vos	WM3	Netherlands	230	F
Mario Cipollini	Acqua & Sapori	Italy	130	M
Mark Cavendish	HTC-Columbia	Isle of Man	34	M
Mathieu van der Poel	Alpecin	Netherlands	34	M
Matti Breschel	Cofidis	Denmark	12	M
Miguel Indurain	BMC	Spain	76	M
Nicolas Roche	Cofidis	Ireland	8	M
Niki Sorensen	SaxoBank	Norway	32	M
Pauline Ferrand	Gitane	France	45	F
Peter Post	Ti-Raleigh	Netherlands	150	M
Peter Sagan	Bora-Hansgrohe	Slovakia	101	M
Philippe Gilbert	BMC	Belgium	85	M
Robbie McKewen	Brooklyn	Australia	55	M
Roger deVlaeminck	Brooklyn	Belgium	134	M

riders 1

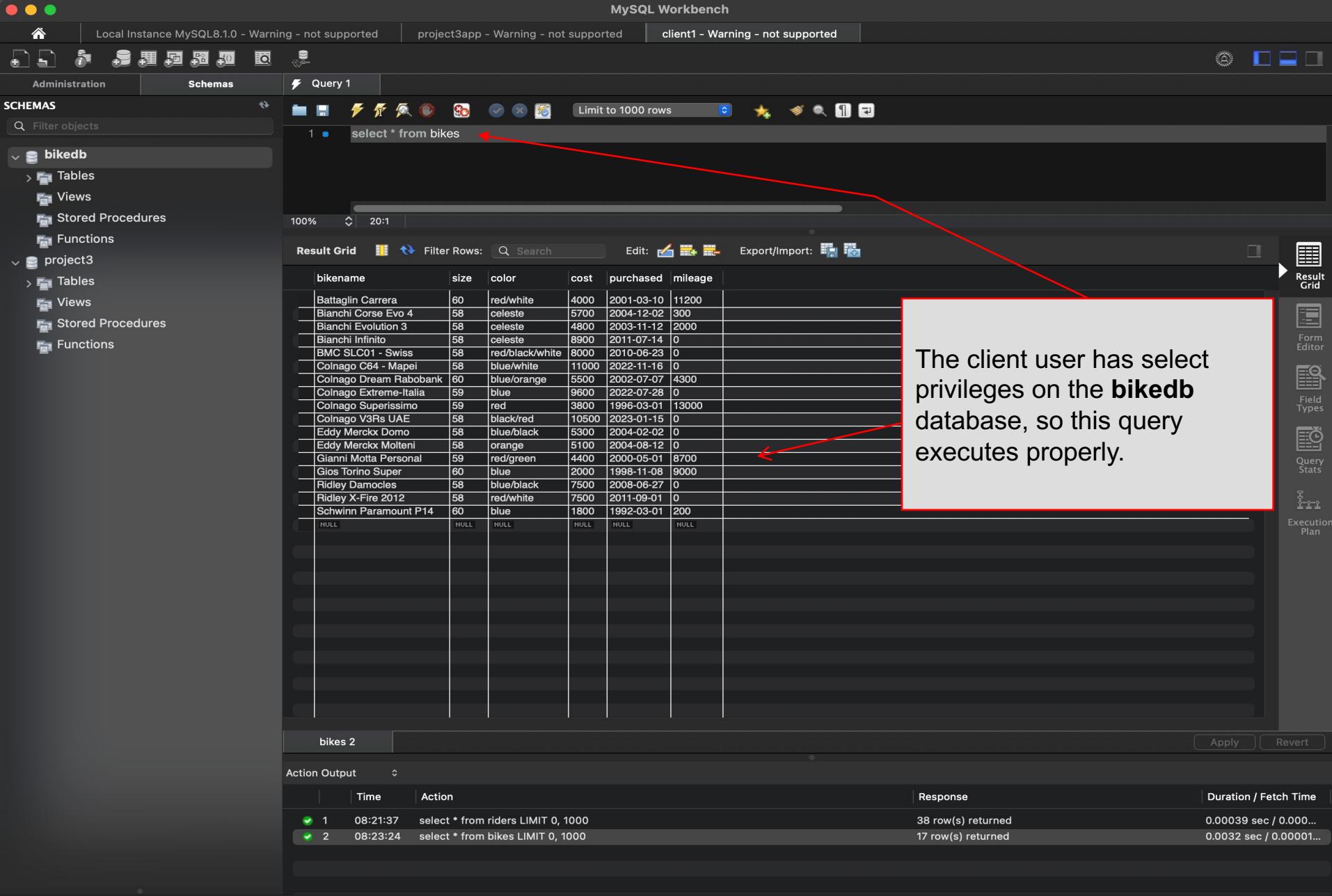
Action Output

Action	Time	Response	Duration / Fetch Time
select * from riders LIMIT 0, 1000	08:21:37	38 row(s) returned	0.00039 sec / 0.000...

Query Completed

The client1 user has select privileges on the **project3** database, so this query executes properly.





The client user has select privileges on the **bikedb** database, so this query executes properly.



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported | client1 - Warning - not supported

Administration Schemas Query 1

Limit to 1000 rows

1 delete from riders where ridername = "Alberto Contador"

SCHEMAS

Filter objects

bikedb

Tables

Views

Stored Procedures

Functions

project3

100% 56:1

bikes 2

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 1	08:21:37	select * from riders LIMIT 0, 1000	38 row(s) returned	0.00039 sec / 0.000...
✓ 2	08:23:24	select * from bikes LIMIT 0, 1000	17 row(s) returned	0.0032 sec / 0.00001...
✗ 3	08:26:02	delete from riders where ridername = "Alberto Contador"	Error Code: 1142. DELETE command denied to user 'c...' 0.00023 sec	

The client1 user attempts to execute a delete command, but does not have this privilege on the **project3** database, so the DBMS denies the operation and no delete operation occurs.

Query interrupted



MySQL Workbench

Local Instance MySQL8.1.0 - Warning - not supported | project3app - Warning - not supported | client1 - Warning - not supported

Administration Schemas Query 1

Limit to 1000 rows

bikedb

- Tables
- Views
- Stored Procedures
- Functions

project3

From the client's perspective, an attempt to execute any SQL command other than a **select** command will generate an error such as the one illustrated here.

Action Output

Time	Action	Response	Duration / Fetch Time
08:21:37	select * from riders LIMIT 0, 1000	38 row(s) returned	0.00039 sec / 0.000...
08:23:24	select * from bikes LIMIT 0, 1000	17 row(s) returned	0.0032 sec / 0.00001...
08:26:02	delete from riders where ridername = "Alberto Contador"	Error Code: 1142. DELETE command denied to user 'c...' 0.00023 sec	
08:28:29	delete from bikes where bikername = "Battaglin Carrera"	Error Code: 1142. DELETE command denied to user 'c...' 0.00039 sec	
08:28:50	delete from bikes where bikername = "Battaglin Carrera"	Error Code: 1142. DELETE command denied to user 'c...' 0.00025 sec	

Query interrupted

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