

CNT 4714: Enterprise Computing

Spring 2022

Client User Creation Using The MySQL Workbench

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Office Hours via Zoom: M: 12:30-1:30 pm T & Th: 4:30-5:30pm,
W: 3:30-4:20pm

Office Hours Zoom Details: Meeting ID: 965 8742 9814
Passcode: 153466

Q&A Sessions via Zoom: Meeting ID: 998 0398 1431
Passcode: 202356

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Client User Creation In The MySQL Workbench

- For Project Three, in addition to the default root user, you need to create a new client for the project3 database and assign them specific privileges on the database.
- 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.



Local Instance MySQL8.0.26

Administration Schemas Query 1 bikedbscript SQL File 2* project3operationslog 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

Object Info Session

No object selected

Local Instance MySQL8.0.26

Users and Privileges

User Accounts

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

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

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: 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

Add Account Delete Refresh Revert Apply

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



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Object Info Session

No object selected

Local Instance MySQL8.0.26
Users and Privileges

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

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mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
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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.

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

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 Apply

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2. Click the Add Account button here.



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PERFORMANCE

- Dashboard

No object selected

User Accounts

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

Details for account newuser@%

Login Name: **client** 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.

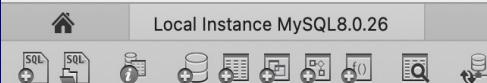
Confirm Password: ********* Enter password again to confirm.

Add Account Delete Refresh Revert Apply

1. Enter the information for the new user named “client” as shown. Doesn’t matter if the password is considered weak. (Use “client” as the password)

2. Click the Apply button when finished





Administration

Schemas

Query 1

bikedbscript

SQL File 2*

project3operationslog

Administration - Users and Privileges

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PERFORMANCE

- Dashboard

Object Info Session

No object selected

Local Instance MySQL8.0.26
Users and Privileges

User Accounts

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

Details for account client@%

 Login Account Limits Administrative Roles Schema PrivilegesLogin Name:

You may create multiple accounts with the same name to connect from different hosts.

Authentication Type:

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

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

 Add Account Delete Refresh Revert Apply

Local Instance MySQL8.0.26

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Object Info Session

No object selected

Local Instance MySQL8.0.26
Users and Privileges

User Accounts

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

Details for account client@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: client 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

Add Account Delete Refresh Revert Apply

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

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



Local Instance MySQL8.0.26

Administration **Schemas** **Query 1** **bikedbscript** **SQL File 2*** **project3operationslog** **Administration - Users and Privileges**

MANAGEMENT

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PERFORMANCE

- Dashboard

Object Info **Session**

No object selected

Local Instance MySQL8.0.26
Users and Privileges

User Accounts Details for account client@%

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

Login Account Limits Administrative Roles Schema Privileges

Schema Privileges

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 Rights DDL Rights Other Rights

SELECT INSERT UPDATE CREATE ALTER REFERENCES GRANT OPTION CREATE TEMPORARY TABLES LOCK TABLES

W U TINE TINE

From the Schema Privileges window
click the Add Entry button

Add Account Delete Refresh Unselect All Select "ALL" Revert Apply



Local Instance MySQL8.0.26

Administration **Schemas** **Query 1** **bikedbscript** **SQL File 2*** **project3operationslog** **Administration - Users and Privileges**

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Object Info **Session**

No object selected

Local Instance MySQL8.0.26
Users and Privileges

User Accounts **Details for account client@%**

User From Host Login Account Limits Administrative Roles Schema Privileges

New Schema Privilege Definition

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

Schema

All Schema (%) This rule will apply to any schema name.
 Schemas matching pattern: You may use _ and % as wildcards in a pattern.
 Selected schema: Escape these characters with \ in case you want their literal value.

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

d Entry...

Selected schema dropdown menu:

- ✓ bikedb
- information_schema
- mysql
- operationslog
- performance_schema
- project3** (highlighted with a blue arrow)
- sys

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

Add Account Delete Refresh Cancel OK Select All Select "ALL" Revert Apply



You've now returned to the Schema Privileges window, but the options below are now accessible

User Accounts

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

Details for account client@%

Schema Privileges

project3	none
----------	------

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

The user 'client'@'%' 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

Buttons:

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



MySQL Workbench

Local Instance MySQL8.0.26

Administration Schemas Query 1 bikedbscript SQL File 2* project3operationslog Administration - Users and Privileges

MANAGEMENT

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PERFORMANCE

- Dashboard

Object Info Session

No object selected

User Accounts

Details for account client@%

Schema: project3 Privileges: SELECT

The new client 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.

Revoke All Privileges Delete Entry Add Entry...

The user 'client'@'%' 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

Unselect All Select "ALL"

Add Account Delete Refresh Revert Apply

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



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

This screenshot shows the MySQL Workbench interface for managing user accounts. The left sidebar includes sections for Administration, Management (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), and PERFORMANCE (Dashboard). The main area displays 'User Accounts' for 'Local Instance MySQL8.0.26'. It lists accounts like 'client' (From Host: %), 'mysql.infoschema' (localhost), 'mysql.session' (localhost), 'mysql.sys' (localhost), and 'root' (localhost). The 'client' account is selected, showing its details under 'Details for account client@%'. The 'Schema Privileges' tab is active, showing 'project3' with the 'SELECT' privilege granted. Other tabs include 'Login', 'Account Limits', and 'Administrative Roles'. At the bottom, there are sections for 'Object Rights' (with checkboxes for SELECT, INSERT, UPDATE, DELETE, EXECUTE, SHOW VIEW), 'DDL Rights' (with checkboxes for CREATE, ALTER, REFERENCES, INDEX, CREATE VIEW, CREATE ROUTINE, ALTER ROUTINE, EVENT, DROP, TRIGGER), and 'Other Rights' (with checkboxes for GRANT OPTION, CREATE TEMPORARY TABLES, LOCK TABLES). Buttons for 'Revoke All Privileges', 'Delete Entry', 'Add Entry...', 'Unselect All', 'Select "ALL"', 'Add Account', 'Delete', 'Refresh', 'Revert', and 'Apply' are also present.





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 design and run SQL queries to work with stored data. You can also migrate from other database vendors to your MySQL database.

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

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

MySQL Connections  

 Filter connections

Local Instance MySQL8.0.26



root

127.0.0.1:3306



Welcome to MySQL Workbench

MySQL Workbench is the official graphical user interface (GUI) tool for MySQL.

Create and browse your database schemas, work with database objects and design and run SQL queries to work with stored data. You can also migrate databases between different MySQL versions.

Setup New Connection

Connection Name: client

Connection Method: Standard (TCP/IP)

Parameters SSL Advanced

Hostname: 127.0.0.1 Port: 3306
Name or IP address of the server host - and TCP/IP port.

Username: client
Name of the user to connect with.

Password: Store in Keychain... Clear
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.

Configure Server Management... Test Connection Cancel OK

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

MySQL Connections + ⌂

Local Instance MySQL8.0.26

root

127.0.0.1:3306

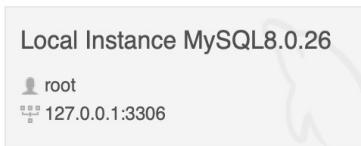


Welcome to MySQL Workbench

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



Log in as the client user using the new connection.



The Workbench after logging in on the client connection. Notice that the only database available to this user is the project3 database. Those that were accessible to the root are not visible now.



MySQL Workbench

Administration Schemas Query 5 SQL File 4*

SCHEMAS

project3

Tables Views Stored Procedures Functions

Object Info Session No object selected

Result Grid Filter Rows: Search Edit: Export/Import:

1 • select * from riders

riders 1

Action Output

Time	Action	Response	Duration / Fetch Time
23:06:13	select * from riders LIMIT 0, 1000	33 row(s) returned	0.00030 sec / 0.000...

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

This screenshot shows the MySQL Workbench interface. In the top navigation bar, 'Local Instance MySQL8.0.26' is selected. The main area displays a query editor with the command 'select * from riders'. Below it is a result grid showing 33 rows of data from the 'riders' table. A callout box highlights the successful execution of the query. The left sidebar shows the 'project3' schema with various database objects like Tables, Views, and Procedures. The bottom section shows the execution history with one entry: 'select * from riders LIMIT 0, 1000' executed at 23:06:13, returning 33 rows in 0.00030 seconds.



Administration Schemas Query 5

SCHEMAS

Filter objects

project3

Tables Views Stored Procedures Functions

Object Info Session

Schema: project3

1 • delete from riders
2 where ridername = "Alberto Contador"

Limit to 1000 rows

The client 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.

100% 37:2

Action Output

	Time	Action	Response	Duration / Fetch Time
1	23:08:38	delete from riders where ridername = "Alberto Contador"	Error Code: 1142. DELETE command denied to user 'client'@'localhost' for ta...	0.00084 sec

A blue arrow points from the 'ridername' parameter in the SQL query 'delete from riders where ridername = "Alberto Contador"' in the Query 5 editor to the explanatory callout box. Another blue arrow points from the 'Error Code: 1142. DELETE command denied to user...' message in the Action Output table to the same callout box.



Administration Schemas Query 5 SQL File 4*

SCHEMAS

project3

Tables Views Stored Procedures Functions

Object Info Session

Schema: project3

100% 41:1

Action Output

	Time	Action	Response	Duration / Fetch Time
✖ 1	23:08:38	delete from riders where ridername = "Alberto Contador"	Error Code: 1142. DELETE command denied to user 'client'@'localhost' for ta...	0.00084 sec
✖ 2	23:10:17	delete from bikes where bikename = "BMC"	Error Code: 1142. DELETE command denied to user 'client'@'localhost' for ta...	0.00022 sec

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.

