

CNT 4714: Enterprise Computing Summer 2014

Client User Creation In The MySQL Workbench

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Client User Creation In The MySQL Workbench

- For Project 5 you need to create two new clients for the `project5` 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.



The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The 'Server' menu is highlighted with a blue arrow pointing to a callout box. The callout box contains the text: "Start the Workbench and select Server tab at the top of the window. Select Users and Privileges from the drop-down list." The main window displays a SQL script in the Query Editor. The script includes comments and SQL commands for creating a database named 'project5' and three tables: 'suppliers', 'parts', and 'jobs'. The 'Suppliers' table has columns 'snum', 'sname', 'status', and 'city'. The 'Parts' table has columns 'pnum', 'pname', 'color', and 'weight'. The 'Jobs' table has columns 'inum' and 'city'. The Navigator panel on the left shows a list of schemas, including 'project5'. The Output panel at the bottom is currently empty.

```
1 # SQL commands to create and populate the MySQL database for
2 # CNT 4714 - Summer 2014 - Project 5
3 #
4 # delete the database if it already exists
5 drop database if exists project5;
6
7 #create a new database named project5
8 create database project5;
9
10 #switch to the new database
11 use project5;
12
13 #create the schemas for the four relations in this database
14 create table suppliers (
15     snum varchar(4) not null,
16     sname varchar(20) not null,
17     status integer,
18     city varchar(20),
19     primary key (snum)
20 );
21
22 create table parts (
23     pnum varchar(4) not null,
24     pname varchar(15) not null,
25     color varchar(15),
26     weight integer,
27     city varchar(20),
28     primary key (pnum)
29 );
30
31 create table jobs (
32     inum varchar(4) not null,
```





SCHEMAS

Filter objects

- largeco
- mailinglist
- performance_schema
- project2
- project3
- project4
- project5
- project6
- test
- vendor2
- vendors

Management Schemas

Information

No object selected



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
(!) <anonymous>	%
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

Details for account root@localhost

Login Account Limits Administrative Roles Schema Privileges

Login Name: root

You may create multiple accounts to connect from different hosts

Authentication Type: Standard

For the standard password and select 'Standard'.

Limit to ... may be used

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 by default.

Click the Add Account button here.

Add Account

Delete

Revoke All Privileges

Expire Password

Revert

Apply

Refresh

Object Info Session





SCHEMAS

Filter objects

- bikedb
- coloursurvey
- guestbook
- largeco
- mailinglist
- project2
- project3
- project4
- project5
- project6**
- test
- vendor2
- vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
root	localhost
root	127.0.0.1
root	:::1
newuser	%

Details for account newuser@%

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 Connectivity to Hosts Matching: % and _ wildcards may be usedPassword: Type a password to reset it.

Weak password.

Confirm Password: Enter password again to confirm.

Enter the information for the new user named "client1" as shown.

Click the Apply button when finished

Add Account Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh





SCHEMAS

Filter objects

- bikedb
- coloursurvey
- guestbook
- largeco
- mailinglist
- project2
- project3
- project4
- project5
- project6**
- test
- vendor2
- vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
client1	%
root	localhost
root	127.0.0.1
root	::1
newuser	%

Details for account newuser@%

Login Account Limits Administrative Roles Schema Privileges

Login Name: client2

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 Connectivity to Hosts Matching: %

% and _ wildcards may be used

Password: *****

Type a password to reset it.

Weak password.

Confirm Password: *****

Enter password again to confirm.

Repeat the steps for client2. Click the Apply button

Add Account Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh





SCHEMAS

Filter objects

- bikedb
- coloursurvey
- guestbook
- largeco
- mailinglist
- project2
- project3
- project4
- project5
- project6**
- test
- vendor2
- vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

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 Connectivity 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.

Add Account

Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh

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





SCHEMAS

Filter objects

- bikedb
- coloursurvey
- guestbook
- largeco
- mailinglist
- project2
- project3
- project4
- project5
- project6**
- test
- vendor2
- vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

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 Connectivity 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.

Add Account

Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh

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





SCHEMAS

Filter objects

- bikedb
- coloursurvey
- guestbook
- largeco
- mailinglist
- project2
- project3
- project4
- project5
- project6**
- test
- vendor2
- vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

Details for account client1@%

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.

Delete Entry

Add Entry...

From the Schema Privileges window
click the Add Entry button

Add Account

Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh





SCHEMAS

Filter ob

bike
colo
gues
larg
mail
proj
proj
proj
proj
test
vend
vend

Managem

Informatio

No object

New Schema Privilege Definition

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

Schema

 Any Schema (%)

This rule will apply to any schema name.

 Schemas matching pattern or 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.

bikedb
cgs2545vendors
coloursurvey
guestbook
information_schema
largeco
mailinglist
mysql
performance_schema
project2
project3
project4
project5
project6
test
vendor2
vendors

 Selected schema:

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

Select the "Selected Schema" button and then select the project5 database from the selection box. Then click OK.

Cancel

OK

LL"

Add Account

Drop

Revoke All Privileges

Expire Password

Revert

Apply

Refresh

Object Info Session





SCHEMAS

Filter objects

- ▶ bikedb
- ▶ coloursurvey
- ▶ guestbook
- ▶ largeco
- ▶ mailinglist
- ▶ project2
- ▶ project3
- ▶ project4
- ▶ project5
- ▶ **project6**
- ▶ test
- ▶ vendor2
- ▶ vendors

Management Schemas

Information

No object selected

Object Info Session



Local instance MySQL56

Users and Privileges

User Accounts

User	From Host
client1	%
client2	%
root	localhost
root	127.0.0.1
root	:::1

Add Account Drop

Details for account client1@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
project6	none

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

Delete Entry Add Entry...

The user 'client1'@'%' will have the following access rights to the schema 'project6':

Object Rights

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

DDL Rights

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

Other Rights

- GRANT OPTION
- CREATE TEMPORARY TABLES
- LOCK TABLES

Unselect All Select "ALL"

Revoke All Privileges Expire Password Revert Apply Refresh

You've now returned to the Schema Privileges window, but the options below are now accessible. (Note that I already had a project6 db that this client had privileges on – simply ignore that database.)





Navigator

SCHEMAS

Filter objects

- largeco
- mailinglist
- performance_schema
- project2
- project3
- project4
- project5
- project6
- test
- vendor2
- vendors

Management Schemas

Information

Schema: project5

Object Info Session

Local instance MySQL56 Users and Privileges

User Accounts

User	From Host
(!) <anonymous>	%
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

Add Account Delete

Details for account client1@%

Login Account Limits Administrative Roles Schema Priv

Schema	Privileges
project6	INSERT, SELECT
project5	INSERT, SELECT

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 'project5':

<p>Object Rights</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> SELECT <input checked="" type="checkbox"/> INSERT <input type="checkbox"/> UPDATE <input type="checkbox"/> DELETE <input type="checkbox"/> EXECUTE <input type="checkbox"/> SHOW VIEW 	<p>DDL Rights</p> <ul style="list-style-type: none"> <input type="checkbox"/> CREATE <input type="checkbox"/> ALTER <input type="checkbox"/> REFERENCES <input type="checkbox"/> INDEX <input type="checkbox"/> CREATE VIEW <input type="checkbox"/> CREATE ROUTINE <input type="checkbox"/> ALTER ROUTINE <input type="checkbox"/> EVENT <input type="checkbox"/> DROP <input type="checkbox"/> TRIGGER 	<p>Other Rights</p> <ul style="list-style-type: none"> <input type="checkbox"/> GRANT OPTION <input type="checkbox"/> CREATE TEMPORARY TABLES <input type="checkbox"/> LOCK TABLES
---	--	---

Revoke All Privileges Expire Password Revert Apply Refresh

Client1 should have only selection and insertion privileges on the project6 database. Click those two options only and click Apply.

The CREATE ROUTINE privilege is needed to create





SCHEMAS

Filter objects

- largeco
- mailinglist
- performance_schema
- project2
- project3
- project4
- project5**
- project6
- test
- vendor2
- vendors

Management Schemas

Information

Schema: project5

Object Info Session

Local instance MySQL56
Users and Privileges

User Accounts

User	From Host
(!) <anonymous>	%
client1	%
client2	%
root	localhost
root	127.0.0.1
root	::1

Details for account client2@%

Login Account Limits Administrative Roles Schema Privileges

Schema	Privileges
project5	SELECT, UPDATE
project6	SELECT, UPDATE

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

Object Rights

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

DDL Rights

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

Other Rights

Unselect All Select "ALL"

Repeat for client2 who should have only selection and update privileges on the project5 database.



MySQL Connections + ↻



Shortcuts

Local instance MySQL56

client1



MySQL Doc Library

Setup New Connection

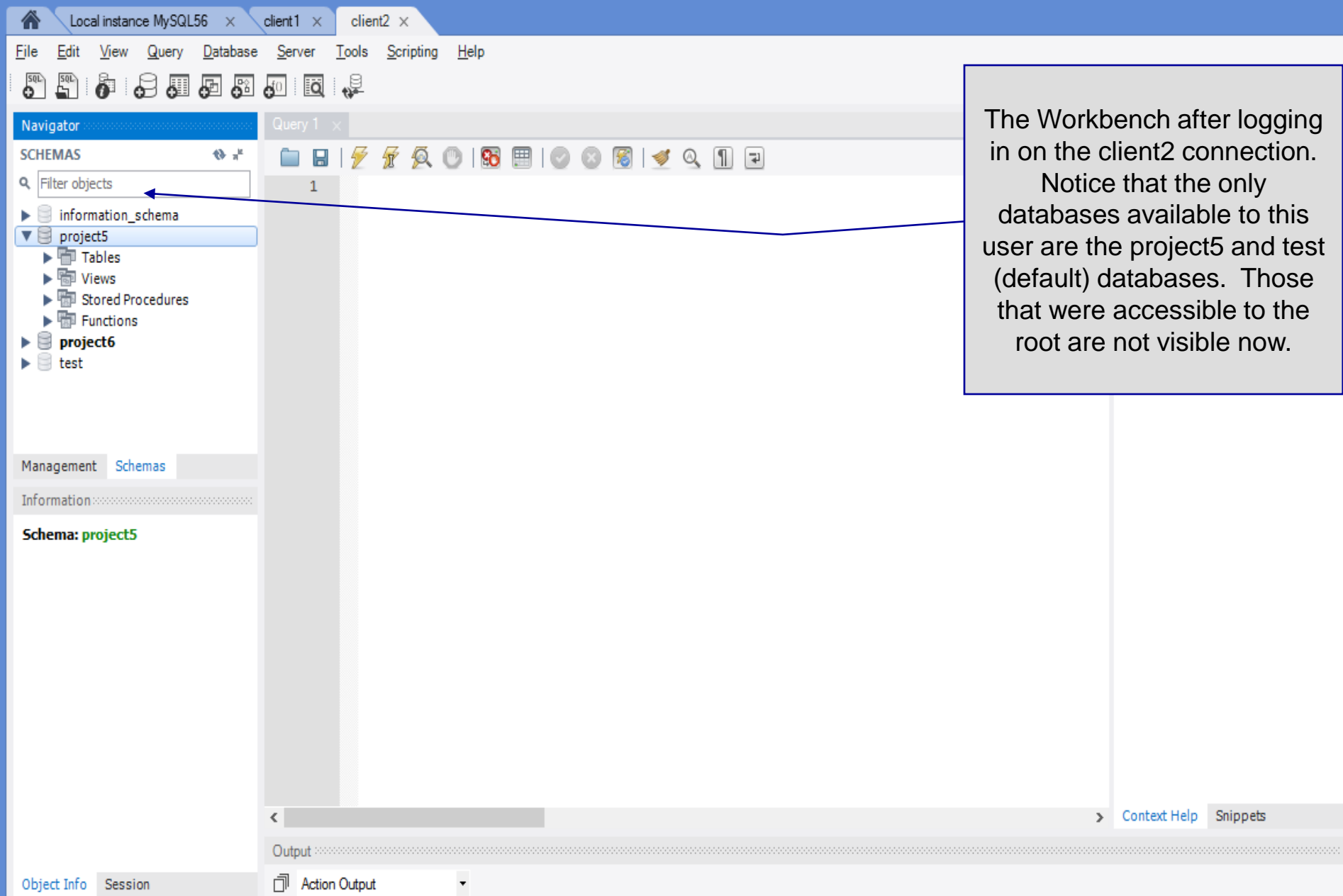
Connection Name: Type a name for the connectionConnection Method: Method to use to connect to the RDBMS

Parameters SSL Advanced

Hostname: Port: Name or IP address of the server host. - TCP/IP port.Username: Name of the user to connect with.Password: The user's password. Will be requested later.Default Schema: The schema to use as default schema. Leave blank for the default schema.

To test your work, go back to the main workbench screen and open a connection to start querying, but login as client1 or client2. Since you'll be doing this a lot, I'd suggest creating a connection for each client.





The screenshot shows the MySQL Workbench interface with the following components:

- Navigator Pane (Left):** Displays a tree view of schemas. The 'project5' schema is selected and highlighted in blue. Below it are sub-objects: Tables, Views, Stored Procedures, and Functions. Other visible schemas are 'information_schema', 'project6', and 'test'.
- Filter Objects:** A search box at the top of the Navigator pane with the text 'Filter objects' and a blue arrow pointing to it from the text box on the right.
- Query Editor (Center):** Shows a single query labeled '1'.
- Management Tab (Bottom Left):** The 'Schemas' sub-tab is active.
- Information Pane (Bottom Left):** Displays 'Schema: project5'.
- Output Pane (Bottom):** Shows 'Action Output'.
- Context Help (Bottom Right):** Includes 'Context Help' and 'Snippets' links.

The Workbench after logging in on the client2 connection. Notice that the only databases available to this user are the project5 and test (default) databases. Those that were accessible to the root are not visible now.



Local instance MySQL56 x client1 x client2 x

File Edit View Query Database Server Tools Scripting Help

Navigator Query 1 x SQLAdditions

SHEMAS

Filter objects

- information_schema
- project5
 - Tables
 - Views
 - Stored Procedures
 - Functions
- project6
- test

1 • `select * from suppliers`

Result Grid Filter Rows: Edit: Export/Import:

snum	sname	status	city
S1	Michael Scuhmacher	1	Berlin
S10	David Coulthard	2	London
S11	Bernard Hinault	7	Paris
S12	Eddy Merckx	1	Brussels
S17	Rubens Barichello	3	Sao Paulo
S2	Juan Pablo Montoya	4	Interlagos
S22	Jan Ullrich	5	Bonn
S3	Dietrich Thureau	1	Berlin
S32	Bernd Schnieder	2	Berlin
S4	Mark Webber	5	Melbourne
S5	Jenson Button	4	London
S6	Nicola Gianniberti	12	Milan

suppliers 1 x Apply Cancel Context Help Snippets

Object Info Session Action Output

Client2 has select privileges on the project5 database, so this query executes properly.



The screenshot shows the MySQL Workbench interface with two client connections: 'client1' and 'client2'. The 'client2' connection is active, and a query window shows the following SQL command:

```
1 • insert into suppliers values('S99','Megan Fox', 9,'Orlando')
```

A blue arrow points from a text box to the query window. The text box contains the following text:

Client2 attempts to execute an insert command, but does not have this privilege on the project5 database, so the DBMS denies the operation and no insert operation occurs.

The 'Schemas' pane on the left shows the 'project5' database selected. The 'Output' pane at the bottom shows the results of the query execution:

	Time	Action	Message	Duration / Fetch
✓	1 17:41:58	select * from suppliers LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec
✗	2 17:43:54	insert into suppliers values('S99','Megan Fox', 9,'Orlando')	Error Code: 1142. INSERT com	Error Code: 1142. INSERT command denied to user 'cli

