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Users and Privileges

4.

```
mysql> create user 'Frodo'@'localhost' identified by 'fro', 'Legolas'@'localhost
' identified by 'leg', 'Aragorn'@'localhost' identified by 'ara', 'Samwise'@'loc
alhost' identified by 'sam', 'Gandalf'@'localhost' identified by 'gan';
Query OK, 0 rows affected (0.00 sec)
```

I created all users explicitly at the localhost because I found during practice that the password was never set when leaving off a host, or when typing 'aUserName'@'%' (only a blank password granted me access even when I did type "identified by <password>". I did, however, find that, when users are created explicitly at the local host, I need to include this when granting options (unless the permission is denied to the granter because, I believe, the granter's permissions are checked first – see #11).

5.

```
mysql> grant ALL on *.* to 'Gandalf'@'localhost' with grant option;
Query OK, 0 rows affected (0.00 sec)
```

8.

```
mysql> grant SELECT, INSERT, UPDATE, DELETE, CREATE, DROP on iTunesDB.* to 'Frodo'@'localhost';
Query OK, 0 rows affected (0.00 sec)
```

10.

```
C:\Users\Owen>mysql -u Frodo -p
Enter password: ***
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 42
Server version: 5.1.37-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use itunesdb;
Database changed
mysql> create table temp_table as select * from artist;
Query OK, 7 rows affected (0.11 sec)
Records: 7  Duplicates: 0  Warnings: 0

mysql> insert into temp_table (artistName) values ('freddy foxes, the');
Query OK, 1 row affected (0.36 sec)

mysql> update temp_table set artistName='aaaaaardvarks, the' where artistID=2;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> delete from temp_table where artistName like '%fox%';
Query OK, 1 row affected (0.09 sec)

mysql> drop table temp_table;
Query OK, 0 rows affected (0.09 sec)
```

11.

```
mysql> grant ALL on bnbookorders.* to 'samwise';
ERROR 1044 (42000): Access denied for user 'Frodo'@'localhost' to database 'bnbookorders'
mysql> grant ALL on bnbookorders.* to 'samwise'@'localhost';
ERROR 1044 (42000): Access denied for user 'Frodo'@'localhost' to database 'bnbookorders'
```

Running the grant command with the Frodo user resulted in an error: access was denied. Frodo was never granted grant privileges and was granted no permissions to the bnbookorders table (just to the iTunesDB table). I ran the command twice, the second time including ‘samwise’@’localhost’ instead of just ‘samwise’, because I added all users explicitly at localhost since their passwords did not set otherwise (see #4). It seems clear that it checks the granter’s permissions first, however my experience with the practice told me that it would have not been able to find the user if I had not specified the host (and had I not, the passwords would not have worked).

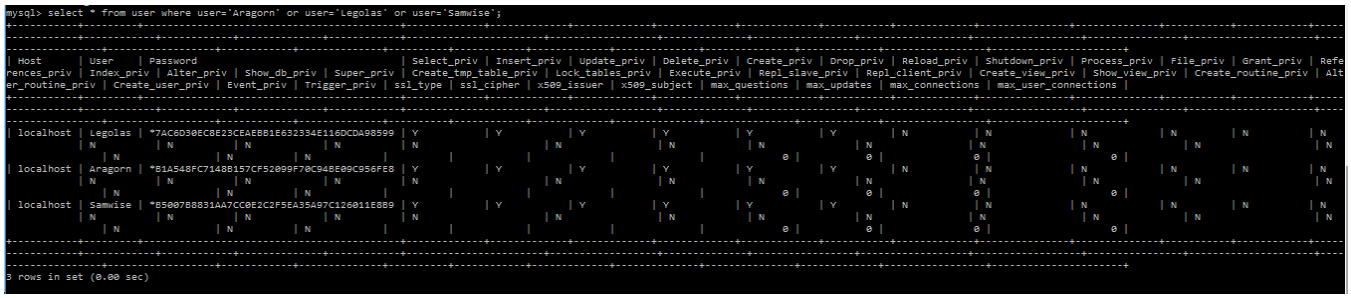
12.

```
mysql> grant SELECT, INSERT, UPDATE, DELETE, CREATE, DROP on *.* to 'Aragorn'@'localhost', 'Legolas'@'localhost', 'Samwise'@'localhost';
Query OK, 0 rows affected (0.00 sec)
```

Here I assumed you want to allow these users the privileges for creating, and dropping tables, as well as inserting data when you said “retrieve, modify and delete data”. I assumed this because asking Aragorn to drop a table he could not create would be a bit boring. You could have intended this but I took a guess as to what you meant. I assumed you wanted us to allow inserting data because of Legolas’s three insert statements, which would all be repetitive if not allowed. I also assumed you did not want us to revoke any privileges first, just to ensure they had those privileges, but not deny them all others which may have been on by default.

I also assumed you meant to all databases, even though you only require them to access iTunesDB simply because it will change the query results from the user table in the mysql database. When access is only granted to one database, the privileges in the user table of mysql database still appear as “N” even though they do have that access (it happened with Frodo).

13.



When access is only granted to one database, the privileges in the user table of mysql database still appear as “N” even though they do have that access (it happened with Frodo).

14.

```
C:\Users\Owen>mysql -u Aragorn -p
Enter password: ***
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 46
Server version: 5.1.37-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use itunesdb;
Database changed
mysql> create table Soundtrack as select * from album where albumID > 3;
Query OK, 5 rows affected (0.49 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> drop table Soundtrack;
Query OK, 0 rows affected (0.09 sec)

mysql> show tables;
+--------------------+
| Tables_in_itunesdb |
+--------------------+
| album              |
| albumartistdetails |
| artist             |
+--------------------+
3 rows in set (0.00 sec)
```

Aragorn was given the rights to create and drop tables, as per my statement in #12 so the table was created and dropped without error.

15. Still logged in as Aragorn.

```
mysql> select * from album;
+---------+----------+--------------------+-----------------------------------
----------------------------+
| albumID | artistID | albumName          | tracks
                           |
+---------+----------+--------------------+-----------------------------------
----------------------------+
|       1 |        1 | Hi Aaron           | aaron1, aaron2, aaron3
                           |
|       2 |        2 | Rolling Strong     | we roll, we rock, we eat stuff
                           |
|       3 |        3 | The Spicy Kind     | motts, umm, some other applesauce...
with metal in it           |
|       4 |        4 | Grrr               | hairy mammal, i eat, i mate, i repro
duce, im angry             |
|       5 |        5 | The Two Hump Kind  | no water, we spit
                           |
|       6 |        6 | We Rock            | bark, ruff, scratch, lick, eat, smil
e                          |
|       7 |        6 | We Roll...in Stuff | happy to see you - single
                           |
|       8 |        7 | Kaboomage          | Blow the nose, swat some flies, stom
p stomp stomp, eat and drink |
+---------+----------+--------------------+-----------------------------------
----------------------------+
8 rows in set (0.00 sec)
```

```
mysql> select * from albumArtistDetails;
+---------+--------------+--------------+
| albumID | primArtistID | featArtistID |
+---------+--------------+--------------+
|       1 |            1 |            6 |
|       2 |            2 |            1 |
|       3 |            3 |            1 |
|       4 |            4 |            1 |
|       5 |            5 |            6 |
+---------+--------------+--------------+
5 rows in set (0.00 sec)
```

```
mysql> select * from artist;
+----------+-------------------------+
| artistID | artistName              |
+----------+-------------------------+
|        1 | aarons, The             |
|        2 | aardvarks, The          |
|        3 | applesauce metalheads   |
|        4 | badger barbers          |
|        5 | camel captains          |
|        6 | doggy destroyers        |
|        7 | elephant eruptions, the |
+----------+-------------------------+
7 rows in set (0.00 sec)
```

```
mysql> select albumName, artistName
    -> from artist
    -> INNER JOIN album
    -> ON artist.artistID = album.artistID;
+--------------------+-------------------------+
| albumName          | artistName              |
+--------------------+-------------------------+
| Hi Aaron           | aarons, The             |
| Rolling Strong     | aardvarks, The          |
| The Spicy Kind     | applesauce metalheads   |
| Grrr               | badger barbers          |
| The Two Hump Kind  | camel captains          |
| We Rock            | doggy destroyers        |
| We Roll...in Stuff | doggy destroyers        |
| Kaboomage          | elephant eruptions, the |
+--------------------+-------------------------+
8 rows in set (0.00 sec)
```

```
mysql> SELECT artistName, albumName, tracks
    -> FROM artist ar
    -> INNER JOIN album al
    -> ON ar.artistID = al.artistID
    -> WHERE tracks LIKE '%,%' AND tracks NOT LIKE '%,%,%'
    -> ;
+----------------+-------------------+-------------------+
| artistName     | albumName         | tracks            |
+----------------+-------------------+-------------------+
| camel captains | The Two Hump Kind | no water, we spit |
+----------------+-------------------+-------------------+
1 row in set (0.00 sec)
```

16.

```
C:\Users\Owen>mysql -u Legolas -p
Enter password: ***
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 47
Server version: 5.1.37-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use itunesdb;
Database changed
mysql> insert into artist (artistName) values ('freddy fox');
Query OK, 1 row affected (0.08 sec)

mysql> insert into artist (artistName) values ('guilded giraffes');
Query OK, 1 row affected (0.36 sec)

mysql> insert into album (artistID, albumName, tracks) values (8, 'Running from British
Folk', 'yip, skip, run, hide');
Query OK, 1 row affected (0.06 sec)

mysql> update artist set artistName='aarons, the' where artistID=1;
Query OK, 1 row affected (0.45 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update artist set artistName='aardvarks, the' where artistID=2;
Query OK, 1 row affected (0.36 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

17.

```
C:\Users\Owen>mysql -u Samwise -p
Enter password: ***
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 48
Server version: 5.1.37-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use itunesdb;
Database changed
mysql> select * from artist;
+----------+-------------------------+
| artistID | artistName              |
+----------+-------------------------+
|        1 | aarons, the             |
|        2 | aardvarks, the          |
|        3 | applesauce metalheads   |
|        4 | badger barbers          |
|        5 | camel captains          |
|        6 | doggy destroyers        |
|        7 | elephant eruptions, the |
|        8 | freddy fox              |
|        9 | guilded giraffes        |
+----------+-------------------------+
9 rows in set (0.00 sec)

mysql> delete from artist where artistID=9;
Query OK, 1 row affected (0.08 sec)
```

20. In this lesson, I have learned about hot to create users, and grant or revoke their privileges. I have used knowledge that stemmed from this to finally reset my password which was created as blank from the point it was installed. I have also learned about creating .sql command files and windows batch files (.bat) that can run command line commands, including opening and using mysql. To save these files in C:\Windows, I have to run notepad (used to write the files) as administrator, which requires right clicking. I think this is an integral part of getting around in the database world since the ability to maintain an active database means managing its users.