# DBS lab4

1. 基于上一次实验的library数据库的book表。先用root账户登录，创建一个账户A，并授予A在library数据库上的"All"和"grant option"权限。

```
1  PS C:\WINDOWS\system32> mysql -u root -p
2  Enter password: ******
3  Welcome to the MySQL monitor.  Commands end with ; or
   \g.
4  Your MySQL connection id is 22
5  Server version: 8.0.28 MySQL Community Server - GPL
6
7  Copyright (c) 2000, 2022, Oracle and/or its affiliates.
8
9  Oracle is a registered trademark of Oracle Corporation
   and/or its
10 affiliates. Other names may be trademarks of their
   respective
11 owners.
12
13 Type 'help;' or '\h' for help. Type '\c' to clear the
   current input statement.
14
15 mysql>  create user 'A'@'%' identified by '1234';
16 Query OK, 0 rows affected (0.02 sec)
17
18 mysql> grant all on library.* to A with grant option;
19 Query OK, 0 rows affected (0.01 sec)
```

2. 创建B，不授予权限。以账户B登录，测试B能否对book表进行CRUD（增、删、改、查）操作。

```
1  mysql>  create user 'B'@'%' identified by '1234';
2  Query OK, 0 rows affected (0.01 sec)
3  PS C:\WINDOWS\system32> mysql -u B -p
4  Enter password: ****
5  Welcome to the MySQL monitor.  Commands end with ; or
   \g.
6  Your MySQL connection id is 25
7  Server version: 8.0.28 MySQL Community Server - GPL
```

```
 8
 9  Copyright (c) 2000, 2022, Oracle and/or its affiliates.
10
11  Oracle is a registered trademark of Oracle Corporation
    and/or its
12  affiliates. Other names may be trademarks of their
    respective
13  owners.
14
15  Type 'help;' or '\h' for help. Type '\c' to clear the
    current input statement.
16
17  mysql> use library;
18  ERROR 1044 (42000): Access denied for user 'B'@'%' to
    database 'library'
```

发现无法访问library数据库，也无法操作book表。

3. 用A登录，利用grant语句赋给B对于Book表的查询和插入的权限。

```
 1  PS C:\WINDOWS\system32> mysql -u A -p
 2  Enter password: ****
 3  Welcome to the MySQL monitor.  Commands end with ; or
    \g.
 4  Your MySQL connection id is 26
 5  Server version: 8.0.28 MySQL Community Server - GPL
 6
 7  Copyright (c) 2000, 2022, Oracle and/or its affiliates.
 8
 9  Oracle is a registered trademark of Oracle Corporation
    and/or its
10  affiliates. Other names may be trademarks of their
    respective
11  owners.
12
13  Type 'help;' or '\h' for help. Type '\c' to clear the
    current input statement.
14
15  mysql> grant select, insert on library.book to B;
16  Query OK, 0 rows affected (0.01 sec)
17
18  mysql> \q
19  Bye
```

4. 用B登录测试是否具有相应的权限。

```
1   PS C:\WINDOWS\system32> mysql -u B -p
2   Enter password: ****
3   Welcome to the MySQL monitor.  Commands end with ; or
    \g.
4   Your MySQL connection id is 27
5   Server version: 8.0.28 MySQL Community Server - GPL
6
7   Copyright (c) 2000, 2022, Oracle and/or its affiliates.
8
9   Oracle is a registered trademark of Oracle Corporation
    and/or its
10  affiliates. Other names may be trademarks of their
    respective
11  owners.
12
13  Type 'help;' or '\h' for help. Type '\c' to clear the
    current input statement.
14
15  mysql> use library;
16  Database changed
17  mysql> select * from book;
18  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
19  | bno | category  | title       | press       | year |
    author    | price | total | stock |
20  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
21  | 100 | 心理学     | 新的世界      | 浙江大学     | 2002 | 高云
    鹏    | 48.00 |    20 |     4 |
22  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
23  1 row in set (0.00 sec)
24
25  mysql> insert into book values ('10', 'CS', 'Database',
    'ZJU', 2020, 'author', 50.00, 20, 5);
26  Query OK, 1 row affected (0.01 sec)
27
28  mysql> select * from book;
29  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
```

```
30  | bno | category  | title       | press       | year |
    author   | price | total | stock |
31  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
32  | 10  | CS        | Database    | ZJU         | 2020 |
    author   | 50.00 |    20 |     5 |
33  | 100 | 心理学    | 新的世界    | 浙江大学     | 2002 | 高云
    鹏   | 48.00 |    20 |     4 |
34  +-----+-----------+-------------+-------------+------
    +-----------+-------+-------+-------+
35  2 rows in set (0.00 sec)
```

发现可以正常进行查询和删除。

5. 用A登录，利用revoke语句收回B的book表的操作权限，再登录B测试B是否有相应
权限。

```
1   mysql> revoke select, insert on library.book from B;
2   Query OK, 0 rows affected (0.00 sec)
3
4   PS C:\WINDOWS\system32> mysql -u B -p
5   Enter password: ****
6   Welcome to the MySQL monitor.  Commands end with ; or
    \g.
7   Your MySQL connection id is 29
8   Server version: 8.0.28 MySQL Community Server - GPL
9
10  Copyright (c) 2000, 2022, Oracle and/or its affiliates.
11
12  Oracle is a registered trademark of Oracle Corporation
    and/or its
13  affiliates. Other names may be trademarks of their
    respective
14  owners.
15
16  Type 'help;' or '\h' for help. Type '\c' to clear the
    current input statement.
17
18  mysql> use library
19  ERROR 1044 (42000): Access denied for user 'B'@'%' to
    database 'library'
```

无访问权限。

6. 用root登录数据库，删除账户A和账户B。

```
1  mysql> drop user A,B;
2  Query OK, 0 rows affected (0.01 sec)
3
4  mysql> \q
5  Bye
6  PS C:\WINDOWS\system32> mysql -u A -p
7  Enter password: ****
8  ERROR 1045 (28000): Access denied for user
   'A'@'localhost' (using password: YES)
```

此时用户已被删除，无法访问。

7. 实验总结及思考

在mysql中创建用户：

```
1   create user 'username'@'%' identified by 'password';
```

"username" 为注册的用户名，% 为通配符，若希望在本地注册，可改为"localhost"，'password'为注册密码。

授予权限：

```
1  grant all on library.* to A with grant option;
```

"all" 指所有权限。"library"为要授予权限的数据库名称,"."后为授予权限的表，此处为*表示所有表。

回收权限：

与授予权限格式类似，grant 改为 revoke， to 改为 from

删除用户：

drop + username