

《数据库系统原理》实验报告（四）																																						
题目：上机实验课（四）数据库安全性																																						
学号	1853790	姓名	庄镇华	日期	2020.10.27																																	
实验环境：VMware 虚拟机 Red Hat5 系统下的 oracle 环境																																						
<p>实验步骤及结果截图：</p> <p>1. 创建表 studentA</p> <div style="text-align: center;"> <p>关键字      字符类型      约束</p> <p>*****</p> <p>Sno          varchar2(9)      primary key</p> <p>Sname       varchar2(20)      unique</p> <p>Ssex         varchar2(2)</p> <p>Sage          smallint</p> <p>Sdept        varchar2(20)</p> <p>*****</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>CREATE TABLE studentA (   Sno varchar2(9) PRIMARY KEY,   Sname varchar2(20),   Ssex varchar2(2),   Sage smallint,   Sdept varchar2(20),   CONSTRAINT studentA_u1 UNIQUE (Sname) ); DESC studentA;</pre> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;">Name</th> <th style="width: 30%;">Null?</th> <th style="width: 40%;">Type</th> </tr> </thead> <tbody> <tr> <td>SNO</td> <td>NOT NULL</td> <td>VARCHAR2(9)</td> </tr> <tr> <td>SNAME</td> <td></td> <td>VARCHAR2(20)</td> </tr> <tr> <td>SSEX</td> <td></td> <td>VARCHAR2(2)</td> </tr> <tr> <td>SAGE</td> <td></td> <td>NUMBER(38)</td> </tr> <tr> <td>SDEPT</td> <td></td> <td>VARCHAR2(20)</td> </tr> </tbody> </table> <p>2. 向 table studentA 插入两个元组 ('200215121', 'Tom', 'm', 20, 'CS')、 ('200215122', 'Lily', 'f', 19, 'CS')</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>INSERT INTO studentA VALUES ('200215121', 'Tom', 'm', 20, 'CS'); INSERT INTO studentA VALUES ('200215122', 'Lily', 'f', 19, 'CS'); SELECT * FROM studentA;</pre> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">SNO</th> <th style="width: 20%;">SNAME</th> <th style="width: 10%;">SSEX</th> <th style="width: 10%;">SAGE</th> <th style="width: 30%;">SDEPT</th> </tr> </thead> <tbody> <tr> <td>200215121</td> <td>Tom</td> <td>m</td> <td>20</td> <td>CS</td> </tr> <tr> <td>200215122</td> <td>Lily</td> <td>f</td> <td>19</td> <td>CS</td> </tr> </tbody> </table> <p>3. 建立用户 masterA，口令为 key，默认表空间名为 users, 临时表空间名为 temp</p>						Name	Null?	Type	SNO	NOT NULL	VARCHAR2(9)	SNAME		VARCHAR2(20)	SSEX		VARCHAR2(2)	SAGE		NUMBER(38)	SDEPT		VARCHAR2(20)	SNO	SNAME	SSEX	SAGE	SDEPT	200215121	Tom	m	20	CS	200215122	Lily	f	19	CS
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```
CREATE USER masterA
  IDENTIFIED BY "key"
  DEFAULT TABLESPACE users
  TEMPORARY TABLESPACE temp;
```

User created.

4. 授予用户 masterA 以系统特权, 包括 create session、create table、create user、alter user 和 drop user 等, 并赋予其再授权的能力

```
GRANT create session, create table,
  create user, alter user, drop user
  TO masterA WITH ADMIN OPTION;
```

Grant succeeded.

5. 回收 masterA 的 create user、alter user 和 drop user 的系统特权【revoke xx from 用户名】

```
REVOKE create user, alter user, drop user
  FROM masterA;
```

Revoke succeeded.

6. 在 masterA 用户下尝试查询 table studentA (注意使用 sys.studentA)

```
CONN masterA/KEY;
SELECT * FROM SYS.STUDENTA;
```

Connected.

```
SELECT * FROM SYS.studentA
*
```

ERROR at line 1:

ORA-00942: table or view does not exist

7. 授予用户 masterA 对表 studentA 的查询、插入、修改等对象特权, 并赋予其再授权的能力

```
CONN /as sysdba;
GRANT select, insert, update
  ON sys.studentA
  TO masterA WITH GRANT OPTION;
```

SQL> CONN /as sysdba;

Connected.

SQL> GRANT select, insert, update ON sys.studentA TO masterA WITH GRANT OPTION;

Grant succeeded.

8. 在 masterA 用户下查询 sys.studentA (注意使用 sys.studentA)

```
CONN masterA/KEY;
SELECT * FROM SYS.STUDENTA;
```

```
SQL> CONN masterA/KEY;
Connected.
SQL> SELECT * FROM sys.studentA;
```

SNO	SNAME	SS	SAGE	SDEPT
200215121	Tom	m	20	CS
200215122	Lily	f	19	CS

9. 在 masterA 用户下再插入一个元组的数据 ('200215123', 'Bob', 'm', 21, 'IS'), 并在 masterA 用户下查询 (注意使用 sys.studentA)

```
CONN masterA/KEY;
INSERT INTO sys.studentA
VALUES ('200215123', 'Bob', 'm', 21, 'IS');
SELECT * FROM SYS.STUDENTA;
```

```
SQL> INSERT INTO sys.studentA
VALUES ('200215123', 'Bob', 'm', 21, 'IS'); 2
```

1 row created.

```
SQL> SELECT * FROM SYS.STUDENTA;
```

SNO	SNAME	SS	SAGE	SDEPT
200215121	Tom	m	20	CS
200215122	Lily	f	19	CS
200215123	Bob	m	21	IS

10. 删除今天创建的 masterA 用户

```
Conn /as sysdba;
DROP USER masterA CASCADE;
```

```
SQL> Conn /as sysdba;
Connected.
SQL> DROP USER masterA CASCADE;

User dropped.
```

出现的问题:

删除创建的用户时, 没有切换到系统用户 sys, 导致没有足够权限, 无法删除

解决方案:

使用 conn /as sysdba 命令切换到系统用户 sys, 然后就可以删除之前建立的 masterA 用户

关于用户的删除, 总结知识点如下:

```
drop user user01;
```

```
drop user user01
```

\*

ERROR at line 1:

ORA-01922: CASCADE must be specified to drop 'USER01'

报错说明该用户下有创建的其他对象, 如果删除用户, 有两种方法:

(1) 删除用户下的对象:

登录 user01 后执行:

```
SQL> drop table tbl_seg;
```

Table dropped.

再次登录 SYS 执行:

```
SQL> drop user user01;
```

User dropped.

(2) 使用 CASCADE 级联删除:

```
drop user user01 cascade;
```