

# 数据库实验lab15

曹广杰

15352015 数据科学与计算机

授课教师：刘玉葆

## Content

### 数据库实验lab15

#### Content

实验目的

句法总结

实验内容

创建用户信息

创建视图

授权查询

授权修改

查询日志

附录

## 实验目的

1. 通过实验加深对数据安全性的理解;
2. 熟悉视图机制在自主存取控制上的应用。

## 句法总结

1. `sp_addlogin` 创建用户, `sp_grantdbaccess` 授权访问数据库;
2. `grant` 授权查询;
3. `grant` 授权修改;

## 实验内容

### 创建用户信息

创建用户王二, 王二是一名北漂, 但是他却依然对生活充满希望。这里笔者创建其用户名:

```
1 exec sp_addlogin 'ErWang', '123456', 'school', 'English'
2 go
3 use school
4 go
5 exec sp_grantdbaccess 'ErWang'
```

创建用户需要在管理员模式下进行创建。

句法：

1. `sp_addlogin` 用于创建用户，参数分别为“用户名”，“密码”，“作用的数据库”，“使用的语言”
2. `sp_grantdbaccess` 授权访问数据库；

### 创建视图

在数据库school下创建视图，这个语句之前使用过：

```
1 use school
2 go
3 create view grade2000 as
4     select *
5     from students
6     where grade = '2000'
```

### 授权查询

授予王二小哥查询以上视图的权限：

```
1 use school
2 go
3 grant select
4 on grade2000
5 to ErWang
```

句法：

1. 授权操作：`grant`，使用格式如下：

```
1 grant 权限
2 on 视图或者表格
3 to 用户
```

此时使用王二的账户就可以查询到视图内的信息——查询结果详见附录。

### 授权修改

在未授权的情况下，王二的账户是不可以修改数据库的——因为笔者只赋予其查询的权限（修改失败的操作详见附录），这里赋予其修改的权限：

```
1 use school
2 go
3 grant update
4 on dbo.[grade2000]([sname])
5 to ErWang
```

句法：

1. `grant`授予修改某一列的权限：

```

1 grant update
2 on dbo.[视图或者表]([列的名称])
3 to ErWang

```

## 查询日志

The screenshot shows the 'Log File Viewer - (local)' window. The left pane shows the 'Select logs' tree with 'SQL Server' selected. The main pane displays a list of log entries with columns 'Date', 'Source', and 'Message'. The log entries show database startup messages for 'ReportServerTempDB' and 'ReportServer' from sources 'spid58' and 'spid57'. It also shows several login failures for user 'ErWang' and 'User-PC\Administrator' with error 18456.

Date	Source	Message
2018/1/5 7:10:34	spid58	Starting up database 'ReportServerTempDB'.
2018/1/5 7:10:34	spid58	Starting up database 'ReportServer'.
2018/1/5 7:10:18	spid57	Starting up database 'ReportServerTempDB'.
2018/1/5 7:10:18	spid57	Starting up database 'ReportServer'.
2018/1/5 7:09:14	spid56	Starting up database 'ReportServerTempDB'.
2018/1/5 7:09:13	spid56	Starting up database 'ReportServer'.
2018/1/5 7:08:48	spid52	Starting up database 'ReportServerTempDB'.
2018/1/5 7:08:47	spid52	Starting up database 'ReportServer'.
2018/1/5 7:07:40	spid52	Starting up database 'ReportServerTempDB'.
2018/1/5 7:07:40	spid52	Starting up database 'ReportServer'.
2018/1/5 7:04:52	spid52	Starting up database 'ReportServerTempDB'.
2018/1/5 7:04:52	spid52	Starting up database 'ReportServer'.
2018/1/5 7:04:33	Logon	Login failed for user 'ErWang'. Reason: Password did not match that for the lo
2018/1/5 7:04:33	Logon	Error: 18456, Severity: 14, State: 8.
2018/1/5 7:04:30	Logon	Login failed for user 'ErWang'. Reason: Password did not match that for the lo
2018/1/5 7:04:30	Logon	Error: 18456, Severity: 14, State: 8.
2018/1/5 7:04:22	Logon	Login failed for user 'User-PC\Administrator'. Reason: Attempting to use an NT
2018/1/5 7:04:22	Logon	Error: 18456, Severity: 14, State: 8.
2018/1/5 7:04:15	Logon	Login failed for user 'User-PC\Administrator'. Reason: Attempting to use an NT
2018/1/5 7:04:15	Logon	Error: 18456, Severity: 14, State: 8.
2018/1/5 7:04:05	Logon	Login failed for user 'sa'. Reason: Password did not match that for the login.
2018/1/5 7:04:05	Logon	Error: 18456, Severity: 14, State: 8.

## 附录

The screenshot shows the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left shows the 'School' database. The 'SQLQuery1.sql' window shows the following query:

```

--use school
--go
--grant select
--on grade2000
--to ErWang

select *
from grade2000

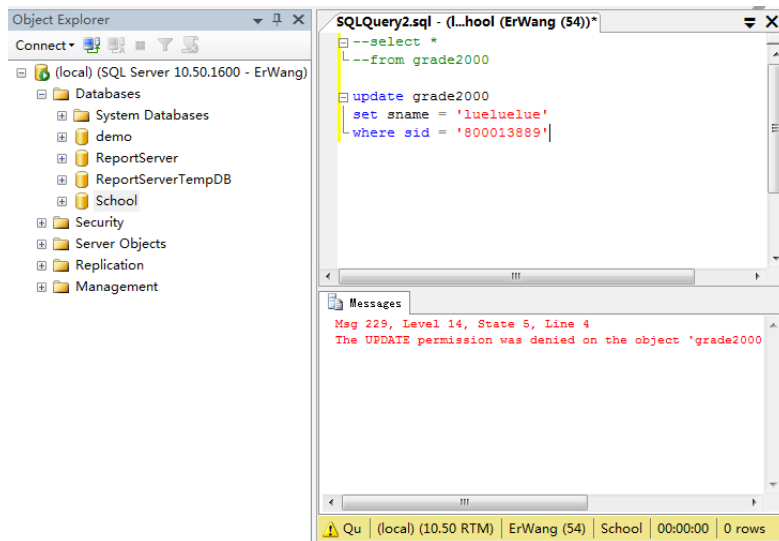
```

The 'Results' pane at the bottom shows the output of the query, displaying a table with columns 'sid', 'sname', 'email', and 'grade'. The table contains 10 rows of data.

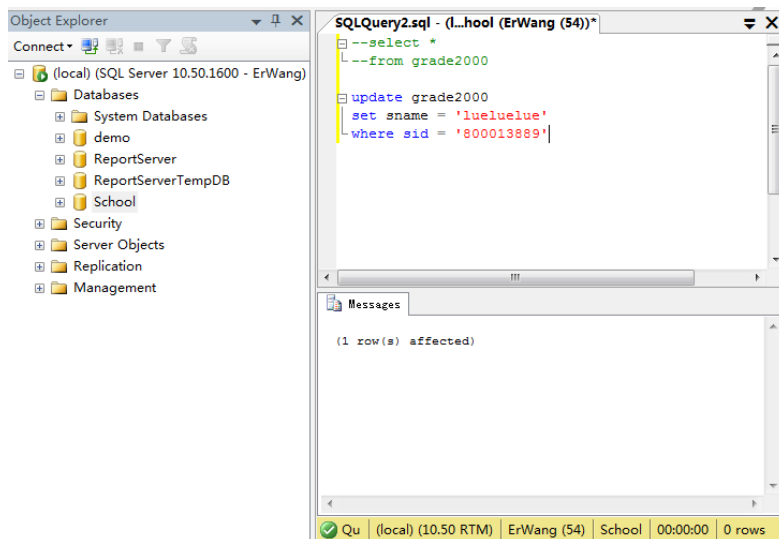
sid	sname	email	grade
820328920	tkckbwmn	7z995in@mlkca.org	2000
820335799	pijagfhe	le59a@cvdju.org	2000
820340515	xpxfcqk	ik996u@hot.com	2000
820345085	tkowh	rp_83dn@lew.com	2000
820347238	hevmwx	wufia@zago.org	2000
820371160	bzauownkr	oyzv3@onu.gov	2000
820381957	bysvdpbr	ozu201w@vuy.edu	2000
820383316	vplmkyc	uz9l@lav.org	2000
820405025	nduwr	dkndut@sinus.nl	2000

The status bar at the bottom indicates the query was executed successfully, showing '6671 rows'.

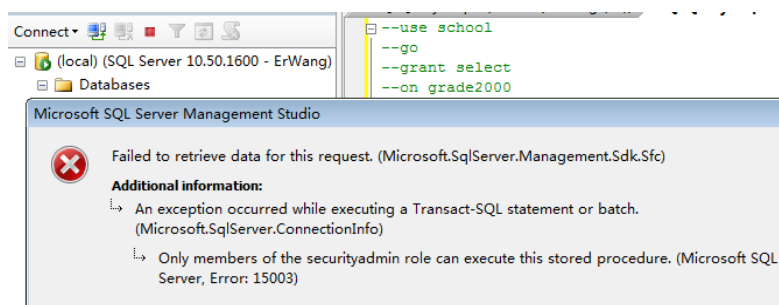
王二查询成功



王二修改Fail



王二修改成功



王二查询log Fail