

Database

创建数据库

```
Create database database_name
on primary
(
    name = file_name,
    filename = 'address\filename.mdf',
    size = X,
    maxsize = Y,
    filegrowth = 10%
),
(
    name = subfile_name,
    ...
),
filegroup group_name
(
    ...
),
(
    ...
),
Log on
(
    name = logfile_name,
    filename = 'address\logfilename.ldf',
    size = X,
    maxsize = unlimited,
    filegrowth = 1MB
)
```

primary文件与次文件之间用','隔开

若创建快照，只需按照创建数据库文件的方式，不填写具体size信息，并在括号后添加

```
as snapshot of database_name
go
```

创建表

```
Create table table_name
(
    column_0 type primary key identity
```

```
column_1 type unique  
)
```

identity：使column自增长

修改表

增删改column

```
alter table table_name  
add column_name type  
drop column column_name  
alter column column_name type
```

主键约束

```
Alter table table_name  
add constraint constraint_name  
primary key(column_name)
```

外键约束

```
Alter table table_name  
add constraint constraint_name  
foreign key(column_name)  
reference table_name(column_name)  
on delete cascade/set null/set default/no action  
on update cascade/set null/set default/no action
```

唯一性约束

```
alter table table_name  
add constraint constraint_name  
unique(conlumn_name)
```

检查约束

```
alter table table_name  
add constraint constraint_name  
check(column_limits)
```

通常可用于控制属性的数值范围

选择

```
select (约束) select_list as '列名' from table_0, table_1
join table_2 on condition
where condition and/or condition
group by group_list
having condition
order by order_list asc/desc
```

- Select 可加的约束：distinct/top n
- Select 后接聚合函数如 sum();avg();max();min();count()等，需注意 **where** 后不能接聚合函数
- Like 模式匹配：%不限字符，_一个字符，[1-5]限制范围为1-5，[^123]排除123
- Group by 后需接的list为 未包含在聚合函数内的列名
- Having 通常与 Group by 联用，用于进一步筛选结果
- Order by ASC升序排列，DESC为降序
- 针对字符的操作：
 - ascii()：左非空第一字节转为ascii码
 - ltrim/rtrim()：消除左/右空格
 - lower/upper()：小/大写显示
 - reverse()：逆序
 - left(表达式,n)：取左边第n个开始的字符
 - substring (表达式 , start, length)：取从start处开始，length长度个字符

视图

```
create view view_name
as
select ...
```

函数

```
create function fun_name returns return_type
as
begin
    ...
return
end
```

注意定义表值函数（即返回表的函数）使用时应视为表，至少要给予一个列名

存储过程

```
create procedure proc_name @parameter_1 datatype,@parameter_2 datatype output
as
begin
    ...
end
go

execute proc_name
```

触发器

```
create trigger trigger_name on table
for/after/instead of      insert/update/delete
as
{
    ...
}
```

游标

```
declare cursor_name cursor for select_statement
open cursor
fetch cursor_name into variable_name
close cursor
```

备份

```
exec sp_addumpdevice 'DISK','BP1','文件地址'
backup database database_name to 设备名
restore database database_name from 备份设备
```

sp_addumpdevice存储过程用于创建备份设备，'BP1'即为设备名

用户和权限

```
create login [pc名/用户]
for Windows
with default_database = database_name
-----
create login user_name
with password = '123456'
with default_database = database_name
-----
create user user_name
login login_name
with default_schema = dbo
-----
grant/deny 权限 on table to user1
revoke 权限 on table from user1
```

Windows、server、database用户注意区分