

悲观锁、乐观锁、行级锁、表级锁 - kuyuyingzi的专栏 - 博客频道 - CSDN

更新丢失：新改的覆盖先改的，开发中有三种方法解决

1、将事务级别提高到最高级别TRANSACTION_SERIALIZABLE

操作双方都要提升级别；查询使用共享锁；更新使用更新锁；一方查询，一方更新，共享锁和更新锁会冲突；当双方更新锁，出现死锁，程序会自动回滚一方操作，从而避免更新丢失

2、悲观锁（加的是表级锁）

一方：查询语句加 for update; 另一方：查询语句加 for update; 当进行更新语句的时候，另一方不能进行更新操作

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from account where name='aaa' for update;
+----+-----+-----+
| id | name | money |
+----+-----+-----+
| 1 | aaa | 800 |
+----+-----+-----+
1 row in set (0.00 sec)

mysql> update account set money=600 where name='aaa';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql>
```

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from account where name='aaa' for update;
+----+-----+-----+
| id | name | money |
+----+-----+-----+
| 1 | aaa | 600 |
+----+-----+-----+
1 row in set (13.01 sec)

mysql>
```

nonev=1200

3、乐观锁

更新语句设置版本号，在指定版本中更新数据

一方：update account set money=money-200, version=version+1 where id=1 and version=0;

另一方操作同一个版本号，则不能更新数据

另一方：update account set money=money+200, version=version+1 where id=1 and version=0;

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> select money, version from account where name='aaa';
+-----+-----+
| money | version |
+-----+-----+
| 600 | 0 |
+-----+-----+
1 row in set (0.00 sec)

mysql> update account set money=money-200, version=version+1 where name='aaa';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql>
```

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from account where name='aaa';
+----+-----+-----+-----+
| id | name | money | version |
+----+-----+-----+-----+
| 1 | aaa | 600 | 0 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> update account set money=money-200, version=version+1 where name='aaa' and version=0;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0

mysql>
```

如果更新多，查询少，用悲观锁；反之，乐观锁

表级锁，where用的是非主键

行级锁，where用主键一般是id

如果用表级锁，其他客户将不能进行查询操作，因此开发中记得用行级锁