

1. ?

1. 1NF , ()

2. 2NF 1NF
2NF 1NF

3. 3NF 2NF
3NF
>>2. > >>1.
>>3.

2. ?

1. PreparedStatement Statement sql

2.

3.

4. UNION ALL UNION

ALL >>UNION UNION ALL UNION

UNION >1.
Union All

>2. Union
UNION ALL

3. ?

1. :
2. : MySQL

3. :

4. : MySQL

4. mysql

B B+

5. MySQL :

1. MySQL : Debian service mysql status
RedHat service mysqld status
2. MySQL : service mysqld start
service mysqld stop
3. Shell MySQL: mysql -u root -p
4. : show databases;
5. : use *databasename*;
databasename
6. : show tables;
7. Field : describe table_name;

6.mysql

Mysql

Mysql Mysql
slaves *

1.

2.

replay log 3.

7.mysql

?

1. SQL
MySQL
- 2.
3. mysql5.0
:

8.mysql myisam innodb

1. > *MyISAM*
InnoDB > InnoDB
(rollback) (crash recovery capabilities)
(transaction-safe (ACID compliant))
2. InnoDB MyISAM . >>
myisam select update delete insert
insert

3. InnoDB MVCC, MyISAM
 4. InnoDB MyISAM
 5. > MyISAM
 > InnoDB
 6 ()

6. InnoDB MyISAM
 7. > MyISAM

> InnoDB
 binlog mysqldump G

8. > MyISAM MyISAM
 .frm
 .MYD (MYData)
 .MYI (MYIndex) > InnoDB
 InnoDB
 2GB

9.mysql varchar char varchar(50) 50

1. varchar char : char varchar

2. varchar(50) 50 : 50

3. int 20 20 : int(M) M indicates the maximum display width ()for integer types. The maximum legal display width is 255.

10.MySQL InnoDB

1. Read Uncommitted >>

Dirty Read
 2. Read Committed >>
 MySQL

Nonrepeatable Read
 commit select

3. Repeatable Read >> MySQL

Phantom

Read

$\frac{1}{2}$ $\frac{1}{2}$ InnoDB Falcon
MVCC Multiversion Concurrency Control

4. Serializable >>

11. X text X

text, blob)
MYSQL
16K

UPDAE UPDATE

12. MySQL InnoDB

InnoDB MySQL
Oracle InnoDB
InnoDB InnoDB

13. MySQL

1. Keybuffersize > * keybuffersize

Keyreadrequests Keyreads keybuffersize
keyreads / keyreadrequests
1:100 1:1000 SHOW STATUS LIKE
key read% ' > * keybuffersize MyISAM
MyISAM MyISAM

createdtmpdisktables
1G MyISAM 16M 8-
64M > * keybuffersize >>>1. keybuffer
4G 4G 3

bug: >>>> <http://bugs.mysql.com/bug.php?id=29446>
>>> <http://bugs.mysql.com/bug.php?id=29419>
>>> <http://bugs.mysql.com/bug.php?id=5731>
>>2. keybuffer 1/4(MyISAM
) 30%~40% keybuffersize

MySQL

>>>3.

keybuffer, keybuffer

2. innodbbufferpool_size > InnoDB

mysql 128M
CPU 32 4294967295

(2^32-1) 64
18446744073709551615 (2^64-1) > 32

CPU
1G innodbbufferpoolinstances 1. > *
, innodbbufferpoolsize

pool 3/4 4/5 , buffer
, buffer pool

innodbbufferpool_instances , buffer pool

3. querycache > mysql select query
mysql query hash hash

hash query cache
hash hash query
cache hash hash query

cache hash query table
hash query mysql cache

query cache query cache table
> query cache

>> 1. query hash hash
mysql select query hash

query cache query hash

>> 2. query cache
query cache

>> 3. sql sql
sql

hash >> 4.

4. readbuffersize > MySQL
MySQL

readbuffersize

14. VARCHAR(N) utf8 N
 ()?
 utf8 3 MySQL
 65535 N (65535-1-2)/3 1
 2
 3 utf8 3

15. [SELECT *] [SELECT] 2 ?

- 1.
- 2.
- 3.
- 4.
- 5.

16. HAVING WHERE ?

1. where having select
2. where having
3. where having
4. where having

17. MySQL insert, update

INSERT INTO table (a,b,c) VALUES (1,2,3) ON DUPLICATE KEY
 UPDATE c=c+1;

18. MySQL insert update select

`SQL insert into student (stuid,stuname,deptid) select 10,'xzm',3
 from student where stuid > 8;

update student a inner join student b on b.stuID=10 set
 a.stuname=concat(b.stuname, b.stuID) where a.stuID=10 ; `