

MySQL InnoDB

SQL

read uncommitted

read committed

repeatable read

serializable

MySQL ENUM

ENUM

SQL

```
Create table size(name ENUM('Smail','Medium','Large'));
```

CHAR VARCHAR

CHAR VARCHAR

CHAR 1 255

CHAR CHAR

SET

BLOB

ENUM

CHAR

TEXT

VARCHAR

MySQL

Storage mechanism

Locking levels

Indexing

Capabilities and functions.

TIMESTAMP UPDATE CURRENT_TIMESTAMP

TIMESTAMP

Zero

UPDATE

CURRENT_TIMESTAMP

MySQL

?

Show status

Bytes~~received~~

Bytessent

Com

Created

Handler

Select

Sort_*

Show session status like $\frac{1}{2}$ Select $\frac{1}{2}$; Show profiles SET

profiling=1; Show profiles\G Show profile;

LIKE REGEXP

LIKE REGEXP

^

SELECT * FROM <tablename> **WHERE** * REGEXP "**^b**";

SELECT * FROM <tablename> **WHERE** * **LIKE** "**%b**";

BLOB TEXT

BLOB

BLOB

BLOB

TINYBLOB

BLOB

MEDIUMBLOB

LOB

LONGBLOB

TEXT

TEXT

BLOB

TEXT

TINYTEXT

TEXT

MEDIUMTEXT

LONGTEXT

BLOB

BLOB

TEXT

BLOB

TEXT

MySQL

TRIGGERS

MySQL

BEFORE INSERT

AFTER INSERT

BEFORE UPDATE

AFTER UPDATE

BEFORE DELETE and

AFTER DELETE

SQL

Abs num

floor num

ceil num

insert (s1,index,length,s2)

o S1

- o s2
- o Index , 1
- o Lebgth

upper str ucase str

lower str lcase str

left str length str length

right str length str length

substring str index length str index

length index 1

reverse str str

curdate current_date()

curtime current_time()

now

datediff d1 d2 d1 d2

adddate date num date num

subdate date num date num

Count

sum

avg

Max

min

MySQL

MyISAM

InnoDB

MySQL

o NULL NULL , NOT
NULL 0 -1

- o MySQL

cpu I/O

.

- o

MySQL

UTF-

8

– *count(mycol)* *count()**

- o MySQL

()

MySQL

UNION

- o UNION

UNION

- o UNION ALL

UNION ALL

UNION ALL UNION

UNION ALL

UNION ALL UNION

UNION ALL

MySQL

```
alter table tableName add
```

primary key

unique

fulltext

index

index index_name

: BDB

: MyISAM :

INNODB

MyISAM mysql

MyISAM MyISAM MyISAM

- o MyISAM

- o MyISAM varchar text BLOB

MyISAM

optimize table

- o MyISAM myisamchk

MyISAM

MyISAM Merge

MyISAM

MyISAM

InnoDB InnoDB

MyISAM

memory(heap)

archive

select

insert

Desc[ribe] tablename

show engines

```
mysqldump -u          -p          >
```

```
mysqldump -u          -p          >
```

```
mysqldump -u dbuser -p -d --add-drop-table  
dbname >d:/dbname_db.sql
```

```
-d          --add-drop-table          create          drop table
```

truncate delete drop

drop(DDL)

truncate(DDL)

truncate

delete(DML)

drop>truncate>delete

Redis

key-value

2.

strings map list sets sorted sets

Redis

in-memory

Redis

Memcached

key/value

Redis

Redis

Redis

Redis

k/v

list set zset

hash

Redis

master-slave

Redis

Redis

Redis

key-value

Memcached

value

string

lists

sets

zsets

push/pop add/remove

Redis

-

/

TCP

Socket

Redis

Redis

Redis

key

Redis

key

set

Redis

set

key

Redis

rdb/aof

Redis

resharding

Redis

Redis

ID 0 10000

R0 ID 10001 20000

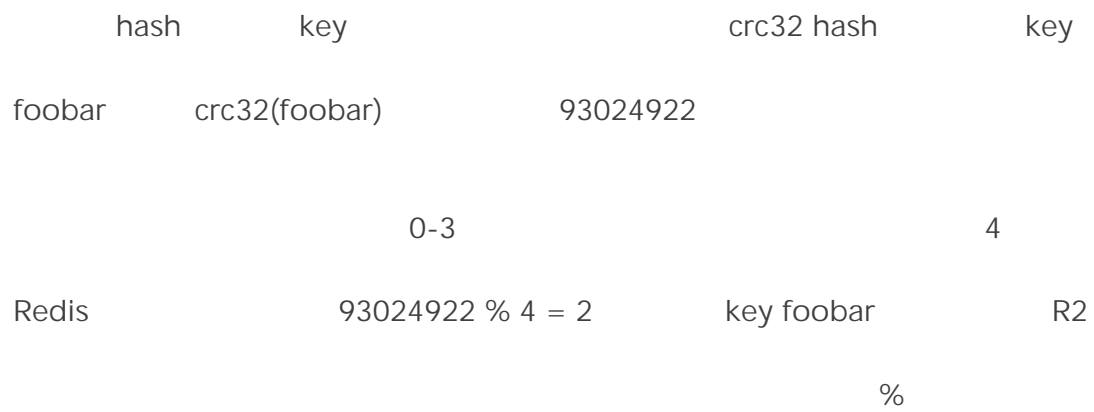
R1

Redis

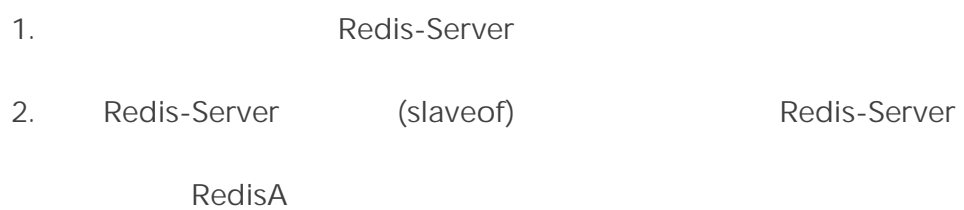
hash

key

object_name:



1.



3. (Replication) RedisA

IP Redis-Server IP

4. RedisA

Redis-Server

Prd-Sharding

Redis

2.

Redis

Redis-

Server

Redis-Server

IP

IP

IP

slaveof no

one

slaveof IP PORT

MongoDB

(NoSql),Mongo DB

(OO),

Mongo DB

Document

Mongo DB

SQL ,

CRUD .

MongoDB

Python PHP Ruby Java C C# Javascript Perl C++

Erlang .NET

BSON JSON

MongoDB

JSON

Mongo

JSON

Mongo

Mongo

Mongo

-

MongoDB

Mongo

Mongo

Mongo

Mongo

Mongo

MapReduce

JSON Mongo BSON

Redis memcache MongoDB

mongodb memcached mongodb

memcached Redis

tcp

1.

Redis memcache mongodb

2.

memcache

Redis Redis IO

mongodb

3.

Redis 2.0 VM

key value memcache

memcache , LRU

mongoDB VM

4.

Redis

,
sharding, hash
Redis

Memcache

hash

mongoDB master-slave,replicaset paxos

,auto sharding

5.

Redis AOF

aof

memcache ,

MongoDB 1.8 binlog

6.

Memcache

cas

Redis

mongoDB

7.

mongoDB

(mapreduce),

8.

Redis

memcache

;

sharding

MongoDB:

Redis

1.

C

10

/ 20

2.

Copy-on-write

save 300 10

(Append-only file aof)

3.

4. -- Slave 21

Amazon 10G key set

5. Sharding Redis

web2.0

Sharding

Redis

1. DB

2. DB shard

3. DB shard

4.