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4-7 键值管理

键值管理

单个键

遍历键

服务器数据

1. 单个键

type

API

type key #返回key的类型

演示

```
127.0.0.1:6379> set a b
OK
127.0.0.1:6379> type a
string
127.0.0.1:6379> sadd myset 1 2 3
(integer) 3
127.0.0.1:6379> type myset
set
```

string

hash

list

set

zset

none

sds

hash

linkedlist

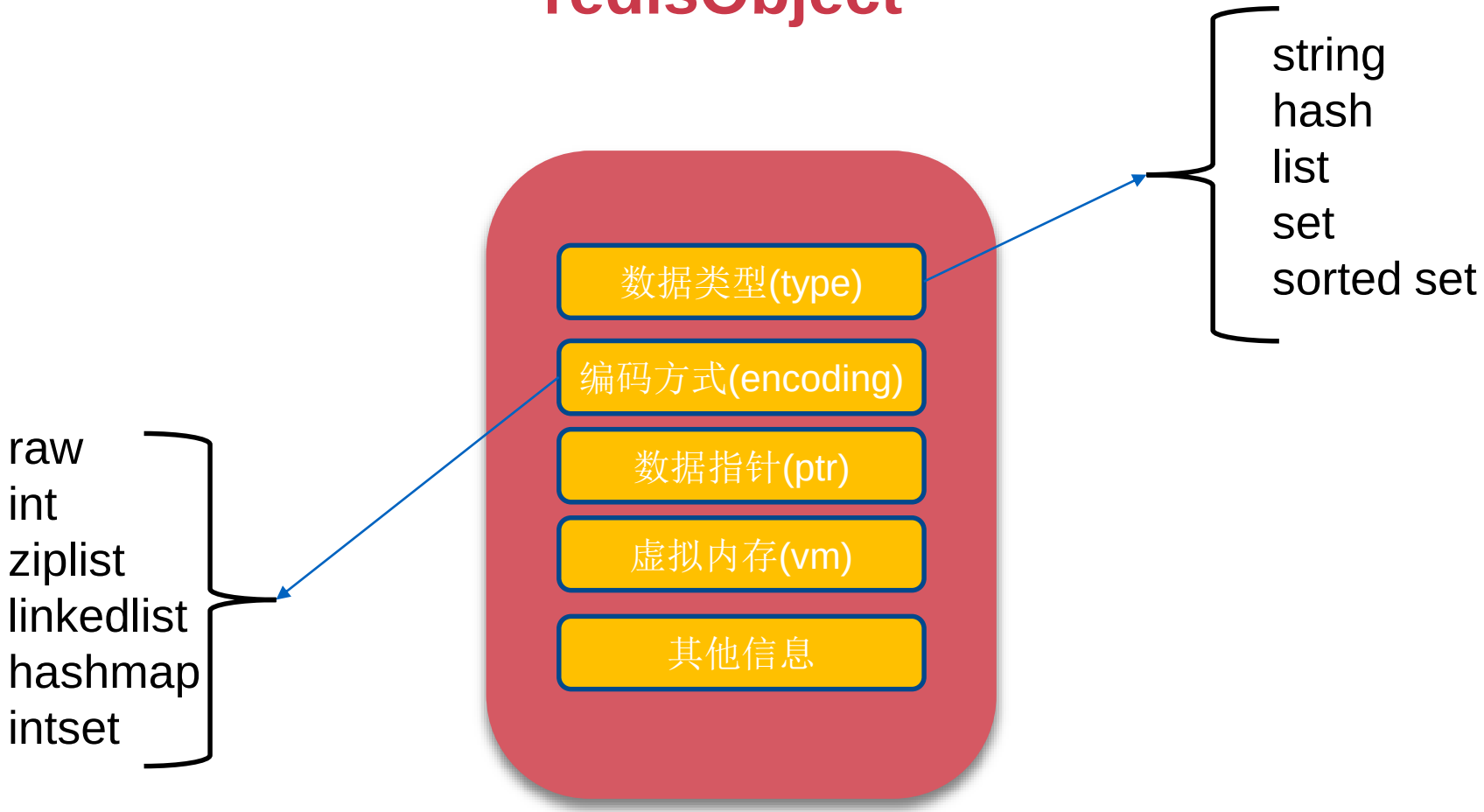
ziplist

intset

skiplist

object encoding key#返回key的实际数据类型

redisObject



del

API

del key #删除指定k-v

0

演示

```
127.0.0.1:6379> set a b
OK
127.0.0.1:6379> get a
"b"
127.0.0.1:6379> del a
(integer) 1
127.0.0.1:6379> get a
(nil)
```

1

exists

API

exists key #检查key是否存在

0

演示

```
127.0.0.1:6379> set a b
OK
127.0.0.1:6379> exists a
(integer) 1
127.0.0.1:6379> del a
(integer) 1
127.0.0.1:6379> exists a
(integer) 0
```

1

rename(newkey存在)

API

rename key newkey #强制重命名

演示

```
127.0.0.1:6379> set a b
OK
127.0.0.1:6379> set c d
OK
127.0.0.1:6379> rename a c
OK
127.0.0.1:6379> get a
(nil)
127.0.0.1:6379> get c
"b"
```

rename(newkey不存在)

API

rename key newkey #强制重命名

演示

```
127.0.0.1:6379> set hello world
OK
127.0.0.1:6379> rename hello java
OK
127.0.0.1:6379> get hello
(nil)
127.0.0.1:6379> get java
"world"
```

renamenx(newkey存在)

API

renamenx key newkey
#newkey不存在重命名, 存在不做操作

演示

```
127.0.0.1:6379> set php good
OK
127.0.0.1:6379> get java
"world"
127.0.0.1:6379> renamenx php java
(integer) 0
```

renamenx(newkey存在)

API

renamenx key newkey
#newkey不存在重命名, 存在不做操作

演示

```
127.0.0.1:6379> set php good
OK
127.0.0.1:6379> get lua
(nil)
127.0.0.1:6379> renamenx php lua
(integer) 1
127.0.0.1:6379> get lua
"good"
```

expire、ttl、persist

API

expire key seconds
#key在seconds秒后过期

API

ttl key
#查看key剩余的过期时间

API

persist key
#去掉key的过期时间

expire、ttl、persist(续)

演示

```
127.0.0.1:6379> set hello world
OK
127.0.0.1:6379> expire hello 20
(integer) 1
127.0.0.1:6379> ttl hello
(integer) 16
127.0.0.1:6379> get hello
"world"
127.0.0.1:6379> ttl hello
(integer) 7
127.0.0.1:6379> ttl hello
(integer) -2 (-2代表key已经不存在了)
127.0.0.1:6379> get hello
(nil)
```

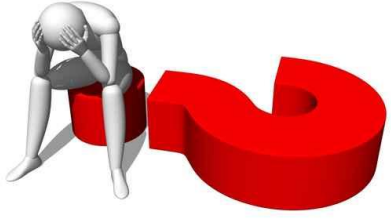
expire、ttl、persist(续)

演示

```
127.0.0.1:6379> set hello world
OK
127.0.0.1:6379> expire hello 20
(integer) 1
127.0.0.1:6379> ttl hello
(integer) 16 (还有16秒过期)
127.0.0.1:6379> persist hello
(integer) 1
127.0.0.1:6379> ttl hello
(integer) -1 （ -1代表key存在，并且没有过期时间。）
127.0.0.1:6379> get hello
"world"
```

时间复杂度

命令	时间复杂度
type	O(1)
del	O(1)
exist	O(1)
rename/renamenx	O(1)
expire	O(1)



HashMap or Dict?

练习

2. 遍历键

键值管理

keys

scan

keys

API

keys *
#遍历所有key

演示

```
127.0.0.1:6379> set hello world
OK
127.0.0.1:6379> set php good
OK
127.0.0.1:6379> set java best
OK
127.0.0.1:6379> keys *
1) "java"
2) "php"
3) "hello"
127.0.0.1:6379> dbsize
(integer) 3
```

Keys(续)

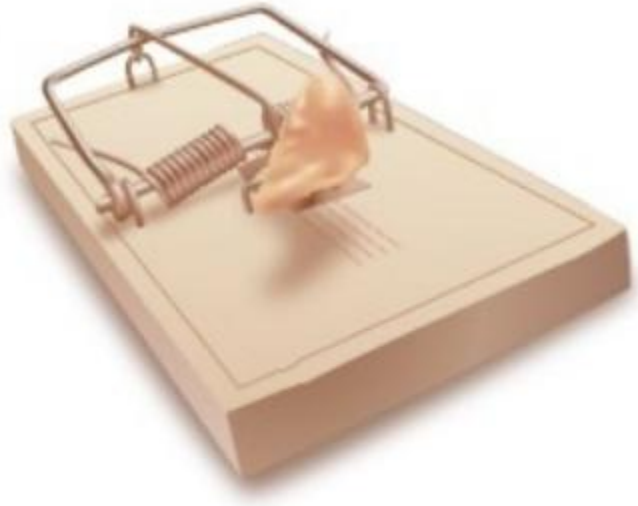
API

keys [pattern]
#遍历所有key

演示

```
127.0.0.1:6379> mset hello world hehe haha php good phe his
OK
127.0.0.1:6379> keys he*
1) "hehe"
2) "hello"
127.0.0.1:6379> keys he[h-l]*
1) "hehe"
2) "hello"
127.0.0.1:6379> keys ph?
1) "phe"
2) "php"
```

Too convenient!



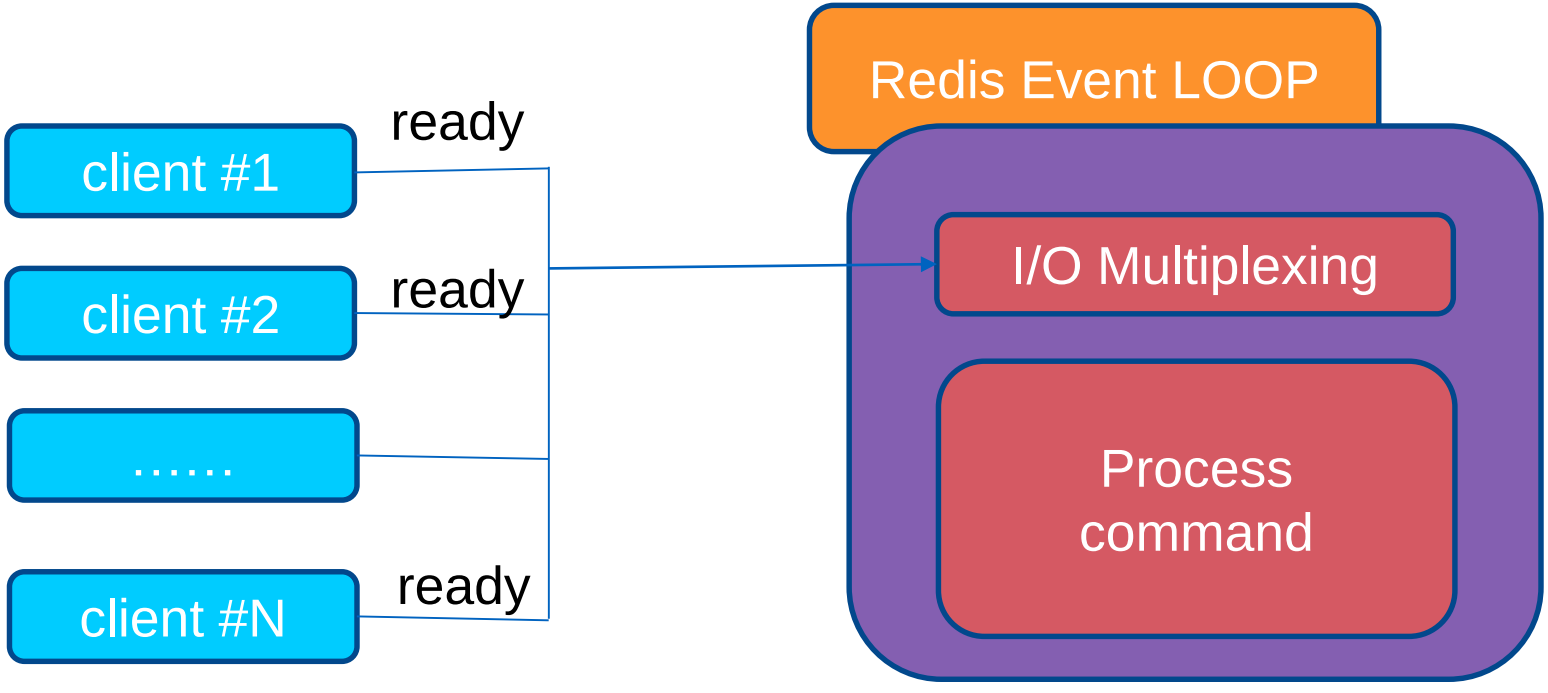
There is no
Free Lunch.

Redis is Single Thread

Single Thread

Redis

Single Thread



Single Thread

1. 一次只运行一条命令
2. 拒绝长(慢)命令

   keys, flushall, flushdb, slow lua script, mutil/exex, operate big value(collection)
3. 其实不是单线程

   fysnc file descriptor
   close file descriptor

FlushAll

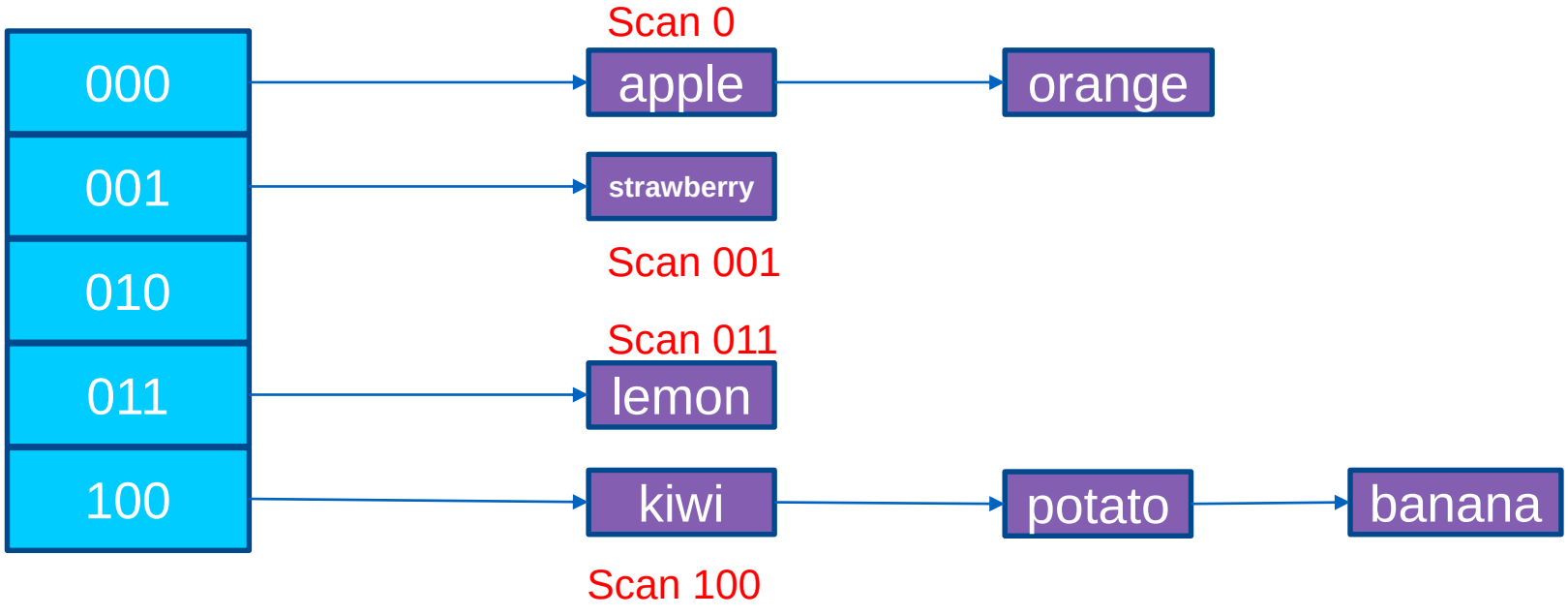
Cache	Item Count	Time
Memcache	1,000,000	1~2ms
Redis	1,000,000	1000ms(1 second)

keys*怎么用

热备从节点

scan

scan



scan

API

scan cursor [MATCH pattern] [COUNT number]
#遍历所有key [模式][个数]

scan

演示

```
127.0.0.1:6379> mset hello world hehe haha php good phe his
OK
127.0.0.1:6379> dbsize
(integer) 4
127.0.0.1:6379> scan 0
1) "0"
2) 1) "hello"
   2) "hehe"
   3) "php"
   4) "phe"
127.0.0.1:6379> scan 0 count 2
1) "1"
2) 1) "hello"
   2) "hehe"
127.0.0.1:6379> scan 1 count 2
1) "3"
2) 1) "php"
   2) "phe"
127.0.0.1:6379> scan 3 count 2
1) "0"
2) (empty list or set)
127.0.0.1:6379> scan 0 match ph*
1) "0"
2) 1) "php"
   2) "phe"
```

时间复杂度

命令	时间复杂度
keys	O(n)
scan	O(1)

练习

3. 服务器数据

dbsize

API

dbsize
#计算key的总数

演示

```
127.0.0.1:6379> mset k1 v1 k2 v2 k3 v3 k4 v4
OK
127.0.0.1:6379> dbsize
(integer) 4
127.0.0.1:6379> sadd myset a b c d e
(integer) 5
127.0.0.1:6379> dbsize
(integer) 5
```

select

API

select
#选择数据库(默认16个数据库，0-15)

演示

```
127.0.0.1:6379> set hello world
OK
127.0.0.1:6379> get hello
"world"
127.0.0.1:6379> select 1
OK
127.0.0.1:6379[1]> get hello
(nil)
127.0.0.1:6379[1]> set php good
OK
127.0.0.1:6379[1]> select 0
OK
127.0.0.1:6379> get php
(nil)
```

select

key	value
K1	V1
K2	V2
K3	v3
……	…...
kn	vn
hello	world

key	value
K1’	V1
K2’	V2
K3’	v3
……	…...
Kn’	vn
java	best

Don’t use select

不便于开发(客户端不支持)

难于诊断错误

推荐单机多实例(cpu)

flushdb

API

flushdb
#清除当前数据库所有key-value

演示

```
127.0.0.1:6379> dbsize
(integer) 5
127.0.0.1:6379> flushdb
OK
127.0.0.1:6379> dbsize
(integer) 0
```

flushall

API

flushall
#清除所有数据库所有key-value

演示

```
127.0.0.1:6379> dbsize
(integer) 3
127.0.0.1:6379> select 1
OK
127.0.0.1:6379[1]> dbsize
(integer) 2
127.0.0.1:6379[1]> flushall
OK
127.0.0.1:6379[1]> dbsize
(integer) 0
127.0.0.1:6379[1]> select 0
OK
127.0.0.1:6379> dbsize
(integer) 0
```

时间复杂度

命令	时间复杂度
dbsize	O(1)
flushdb/flushall	O(n)
select	O(1)

练习

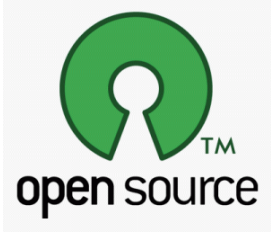
键值管理总结

1. 单个键: type,del,exists,rename,expire
2. 遍历键: keys,scan(比较)
3. 数据库管理: dbsize,select,flushall/db,
4. 时间复杂度！

没讲

- migrate
- dump
- pttl
- randomkey
- sort
- expireat

http://redis.io/clients



搜狐视频Redis私有云平台开源了！！

Github主页：https://github.com/sohutv/cachecloud

QQ群：534429768