主讲人：付磊

主页：http://carlosfu.iteye.com/

8-2.Redis Cluster

Redis Cluster

呼唤集群

集群架构

安装配置

客户端架构

故障转移和扩容

1.呼唤集群

规模化需求

QPS

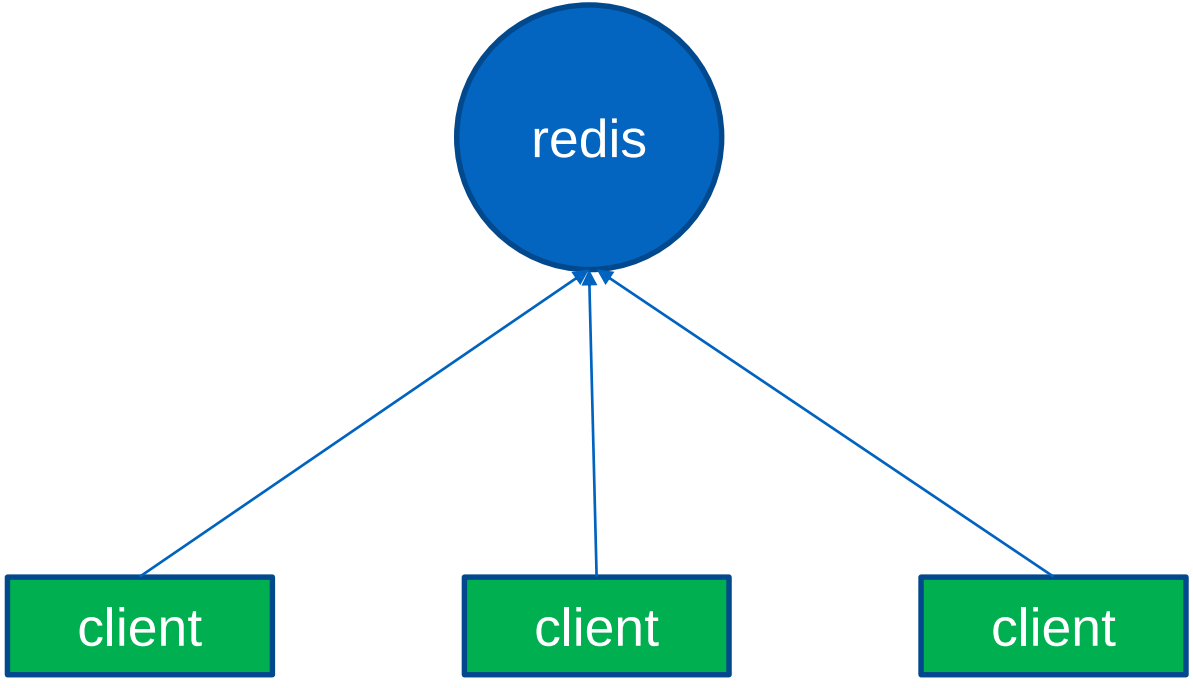
“大数据”

主从、Sentinel

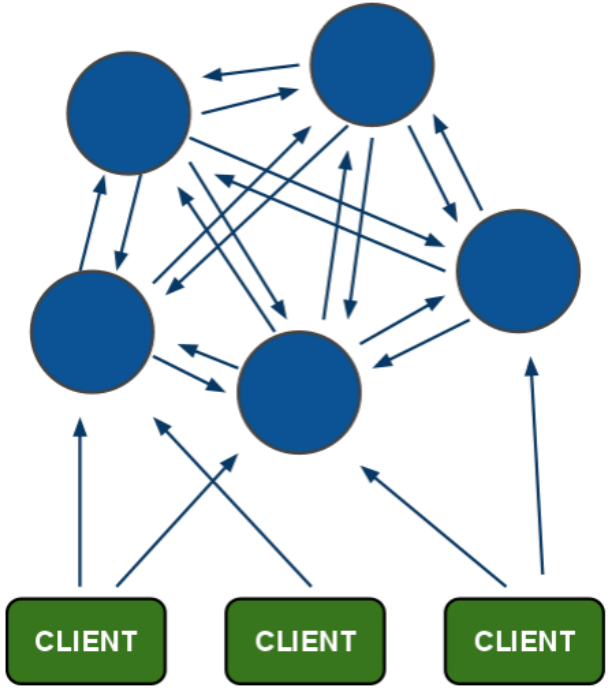
Redis Cluster is released in 3.0

2. Redis Cluster架构

单机架构



分布式架构



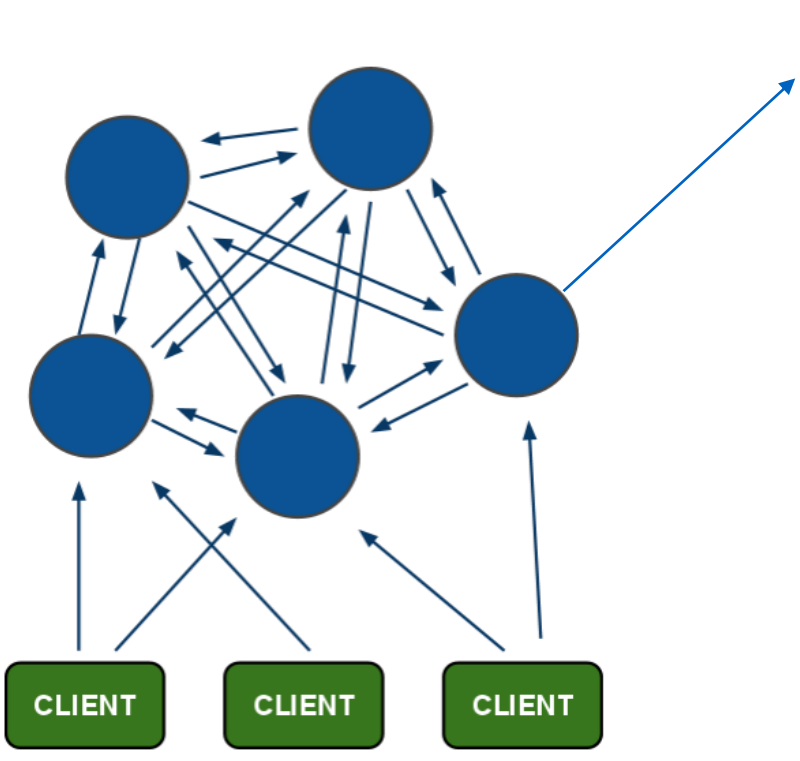
Redis Cluster架构

节点

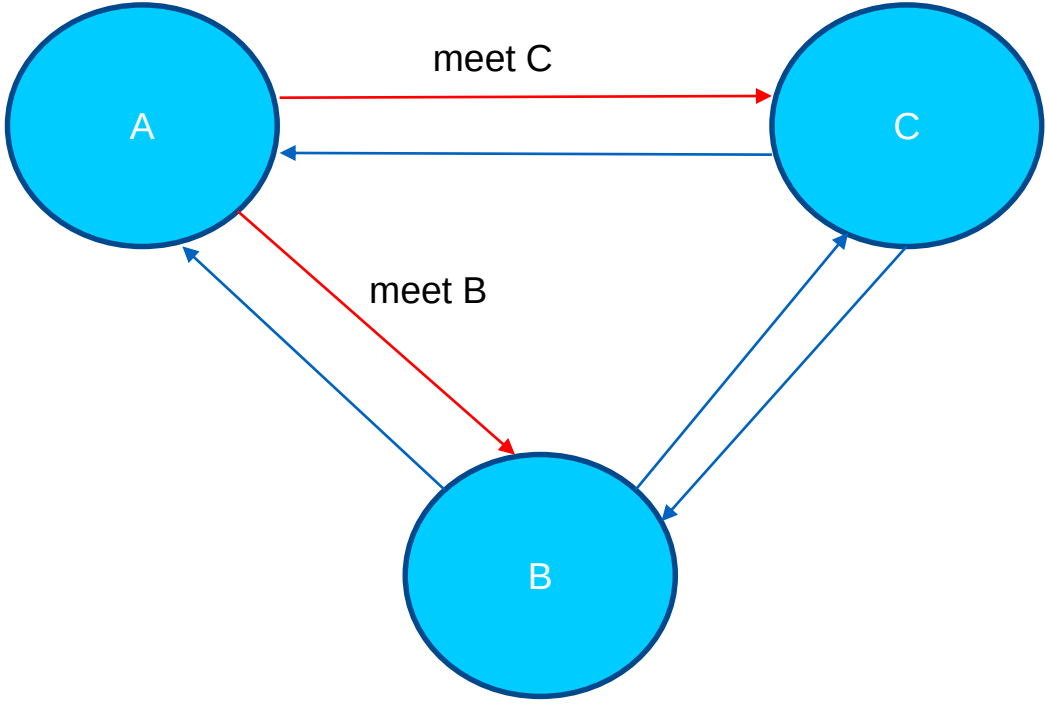
meet

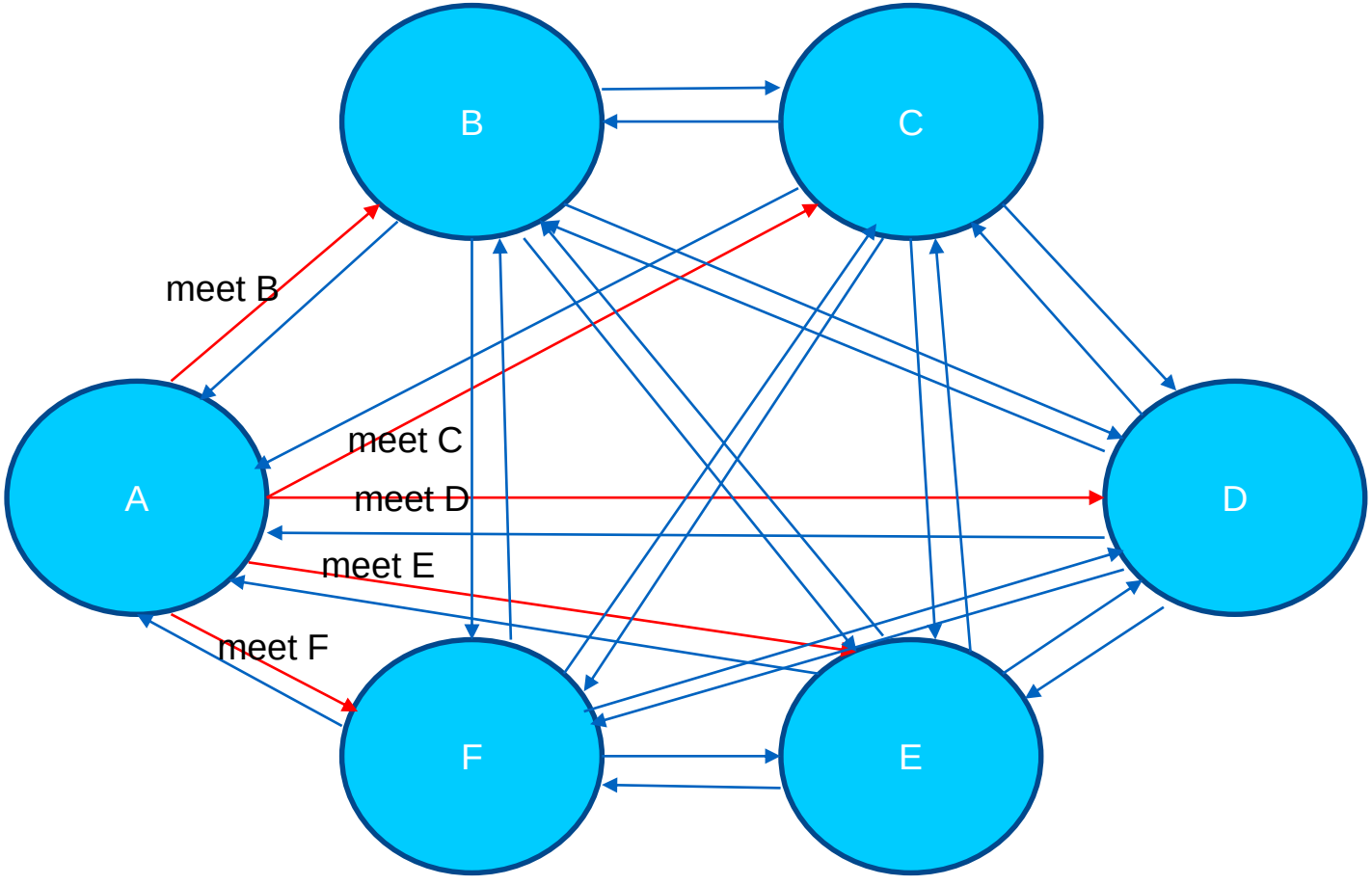
指派槽

节点



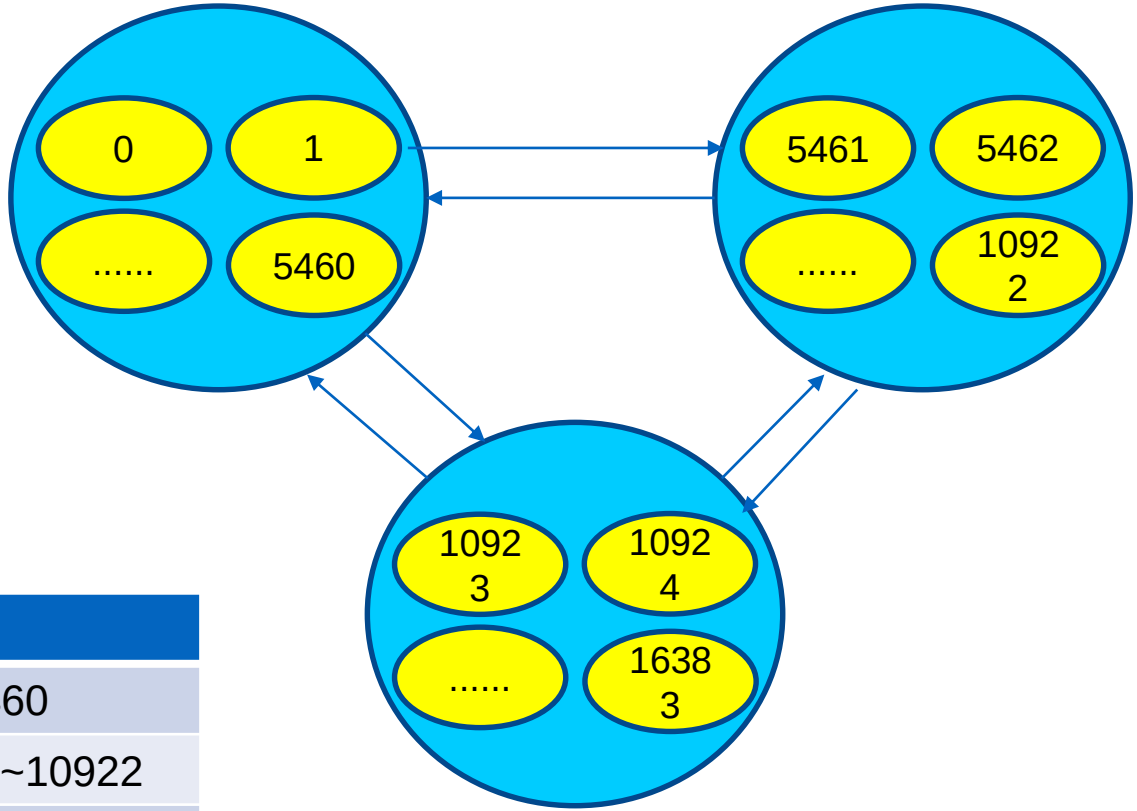
meet





所有节点共享信息

指派槽



16384个slot

节点	槽
A	0~5460
B	5461~10922
C	10923~16383

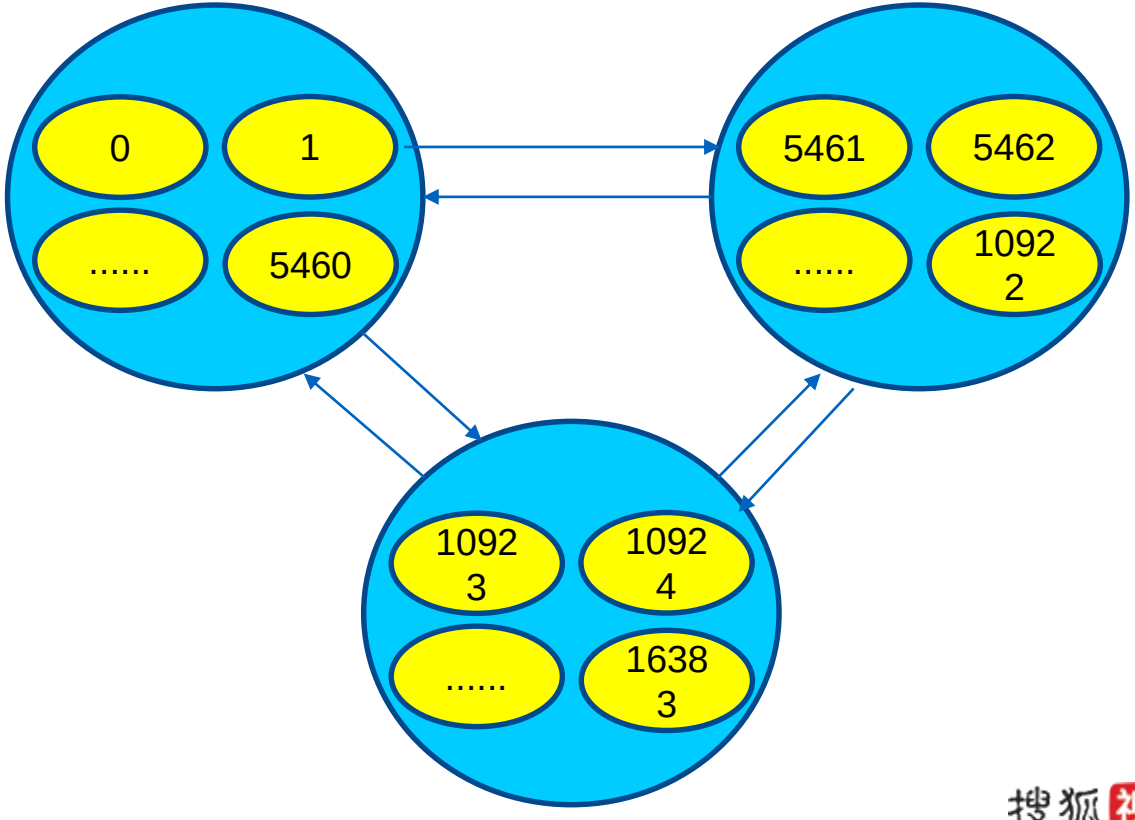
客户端与指派槽

client

1.keyhash=hash(key)

2.slot=keyhash%16384

3. 



Redis Cluster特性

复制

高可用

分片

3. Redis Cluster安装配置

安装与配置

1. 官方工具：http://carlosfu.iteye.com/blog/2242590
2. 原生命令：http://carlosfu.iteye.com/blog/2242630

安装与配置

1. 配置开启节点
2. meet
3. 指派槽
4. 主从

Cluster主要配置

```
cluster-enabled yes
cluster-node-timeout 15000
cluster-config-file "nodes.conf"
cluster-require-full-coverage yes
```

```
cluster-enabled yes
cluster-node-timeout 15000
cluster-config-file "nodes-${port}.conf"
cluster-require-full-coverage no
```

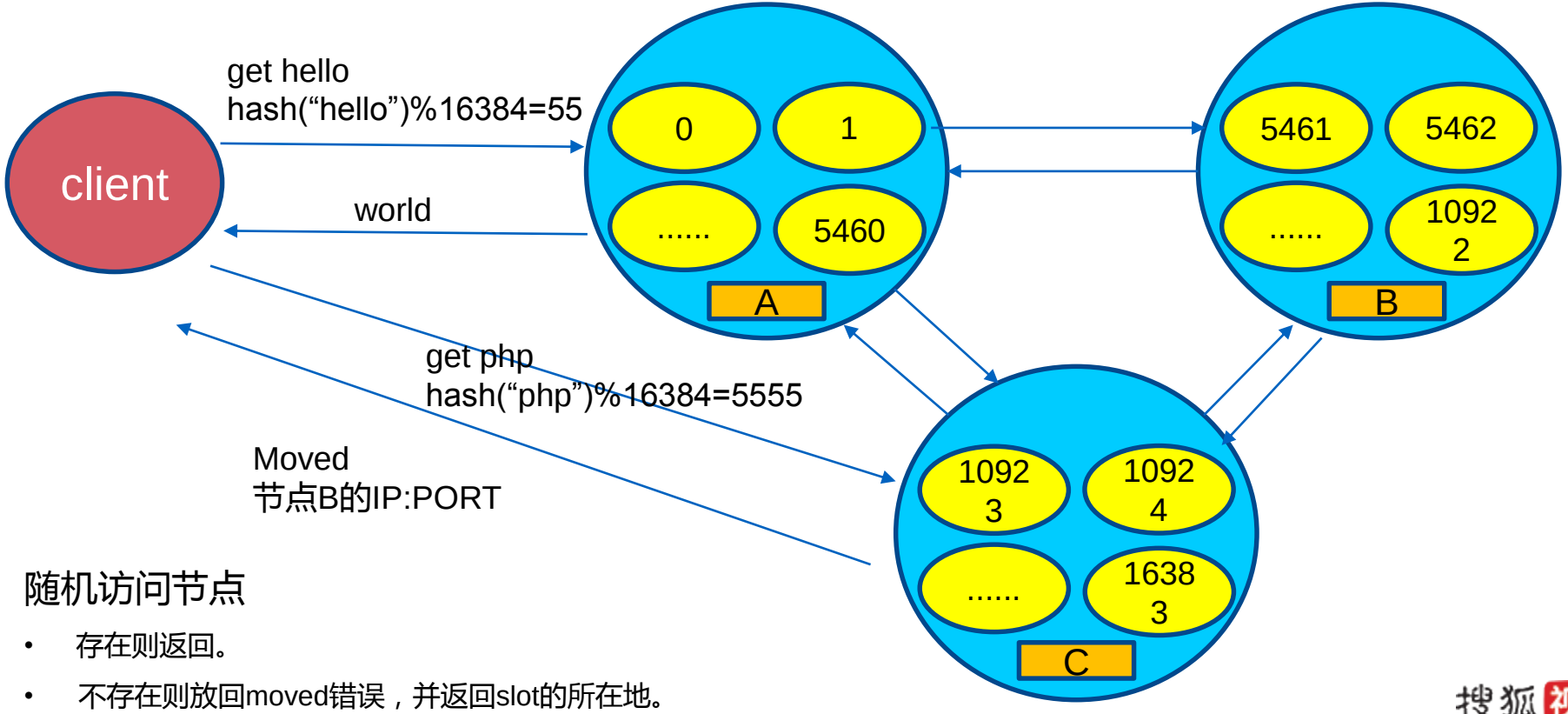
4. 客户端

客户端

请求响应流程

JedisCluster

请求响应流程



随机访问节点

- 存在则返回。
- 不存在则放回moved错误，并返回slot的所在地。

redis-cli

演示

```
redis-cli -c -p 8000
127.0.0.1:8000> cluster keyslot hello
(integer) 866
127.0.0.1:8000> set hello world
OK
127.0.0.1:8000> cluster keyslot php
(integer) 9244
127.0.0.1:8000> set php best
-> Redirected to slot [9244] located at 127.0.0.1:8001
OK
127.0.0.1:8001> get php
"best"
redis-cli -p 8000
127.0.0.1:8000> cluster keyslot php
(integer) 9244
127.0.0.1:8000> set php best
(error) MOVED 9244 127.0.0.1:8001
```

随机访问？性能？

JedisCluster

1. 所有Redis-Cluster节点
2. slot,ip:port对应关系本地缓存

JedisCluster

```
Set<HostAndPort> nodeList = new HashSet<HostAndPort>();
nodeList.add(new HostAndPort(HOST1, PORT1));
nodeList.add(new HostAndPort(HOST2, PORT2));
nodeList.add(new HostAndPort(HOST3, PORT3));
nodeList.add(new HostAndPort(HOST4, PORT4));
nodeList.add(new HostAndPort(HOST5, PORT5));
nodeList.add(new HostAndPort(HOST6, PORT6));
JedisCluster redisCluster = new JedisCluster(nodeList, timeout, poolConfig);
redisCluster.command…
```

5. 故障转移和扩容

实验

安装

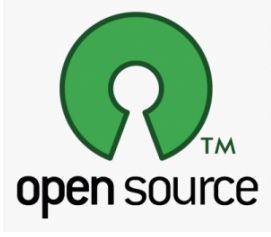
配置

故障转移

客户端

Redis Cluster总结

1. 为什么呼唤集群
2. RedisCluster特性: 复制、高可用、分片
3. RedisCluster安装:节点、meet、分配槽(16384)、复制
4. 客户端:redis-cli –c 和 jedisCluster（哈希、槽、跳转）
5. 故障转移



搜狐视频Redis私有云平台开源了！！

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

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