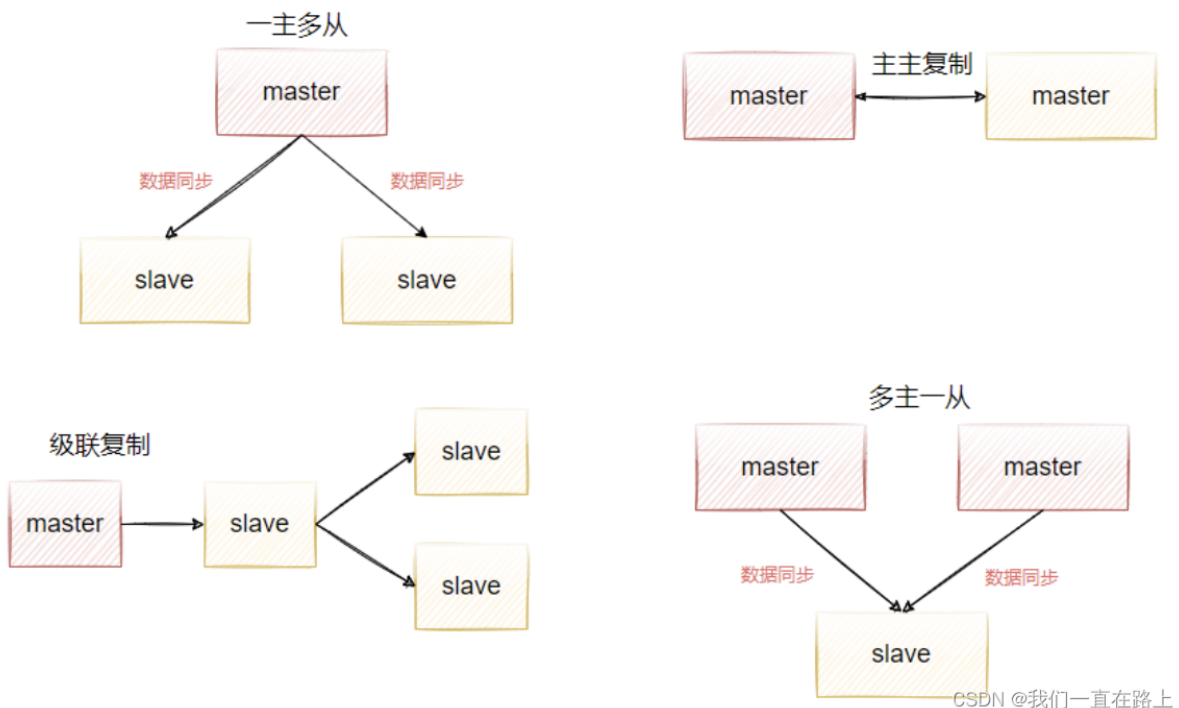


架構調整：從「一主多從」變為「級聯複製」

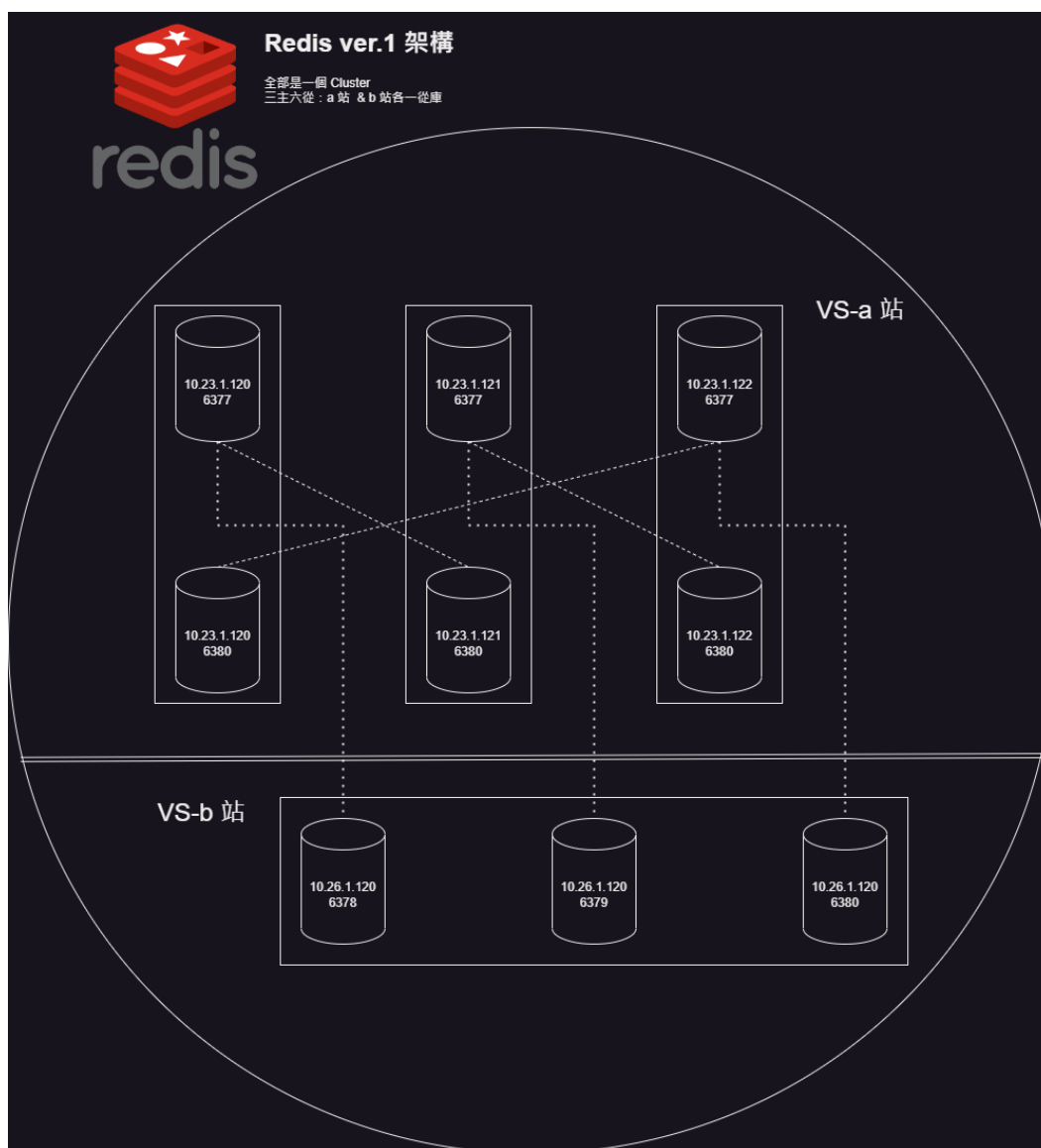


UAT 實作細節

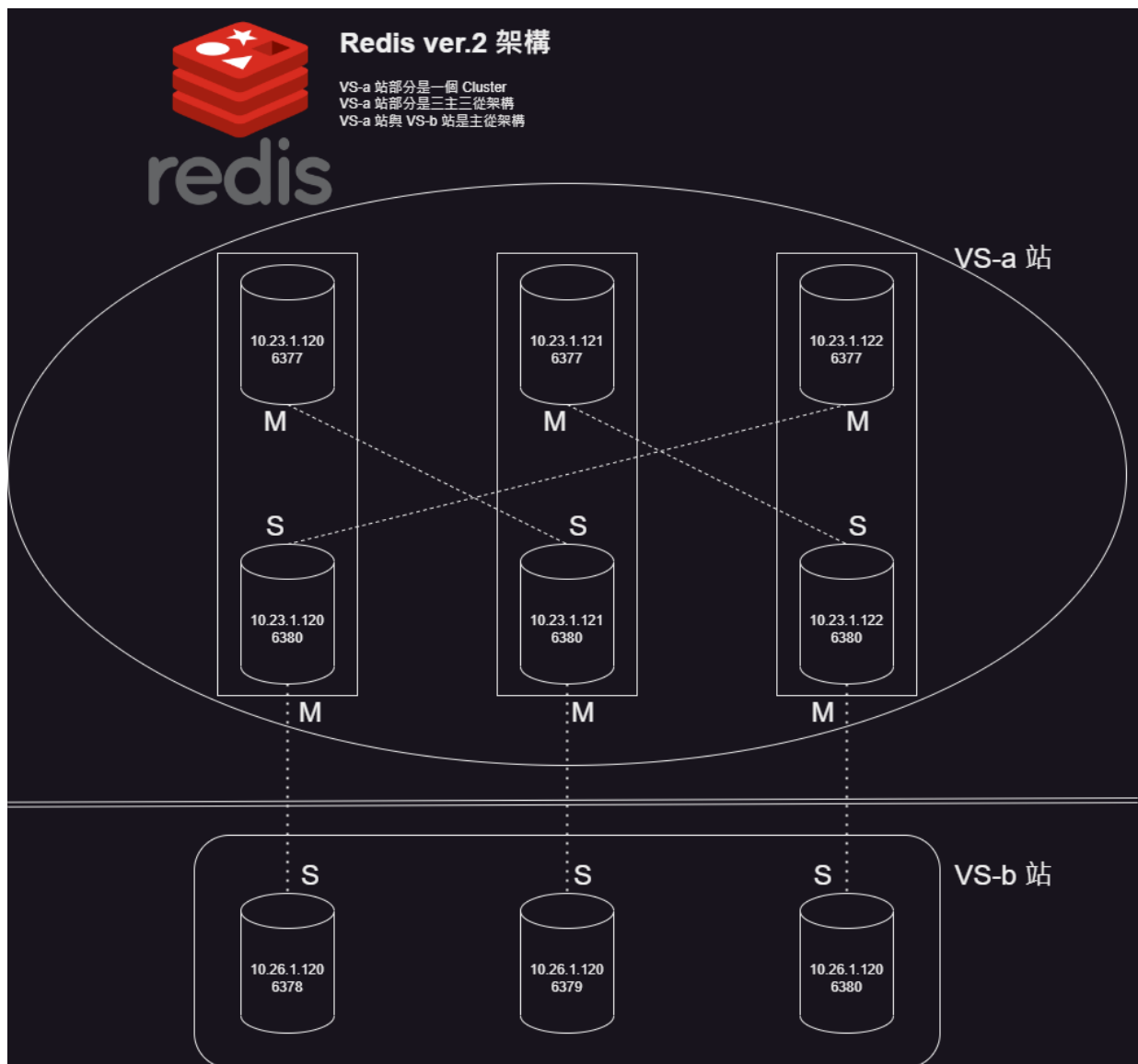
```
## 登入 lab: 10.21.1.3
$ ssh 10.21.1.3

## 查看現在的 node 關係
$ sudo su
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i | cut -d ' ' -f 1` -p 6378 -a newld20200909 cluster nodes 2> /dev/null
04349595dc7b856fd27a2c87d33c842cd506e1f2 10.21.1.122:6380@16380 slave b96b5dd558e7568f383aa4ab2fa625edac4bd020 0 1673243148000 17 connected
959f6718cefd96214ec46025e835f9b405802983 10.21.1.3:6380@16380 slave b96b5dd558e7568f383aa4ab2fa625edac4bd020 0 1673243150129 17 connected
6de8c57e166e6987e4f6473181d237c261ce41e5 10.21.1.3:6378@16378 myself,slave 23a405fd0d07732e0117bb367f9e0b850ebfb14b 0 1673243148000 16 conn
fb7a8a516331499dc0cce6e754651192487a2692 10.21.1.122:6377@16377 master - 0 1673243147000 15 connected 10923-16383
23a405fd0d07732e0117bb367f9e0b850ebfb14b 10.21.1.120:6377@16377 master - 0 1673243147000 16 connected 0-5461
b96b5dd558e7568f383aa4ab2fa625edac4bd020 10.21.1.121:6377@16377 master - 0 1673243146000 17 connected 5462-10922
f7def362c61ae67a2025f8f820062c40d8061743 10.21.1.120:6380@16380 slave fb7a8a516331499dc0cce6e754651192487a2692 0 1673243148122 15 connected
9cc6fcd015145cfe8bf81150bd58b4b8397e07e0 10.21.1.121:6380@16380 slave 23a405fd0d07732e0117bb367f9e0b850ebfb14b 0 1673243149126 16 connected
289cd799d35d8362a87c94057879bb111875e57a 10.21.1.3:6382@16382 slave fb7a8a516331499dc0cce6e754651192487a2692 0 1673243146000 15 connected
```

- Master - 10.21.1.120:6377@16377
 - Replica/Slave - 10.21.1.121:6380@16380
 - Replica/Slave - 10.21.1.3:6378@16378
- Master - 10.21.1.121:6377@16377
 - Replica/Slave - 10.21.1.122:6380@16380
 - Replica/Slave - 10.21.1.3:6380@16380
- Master - 10.21.1.122:6377@16377
 - Replica/Slave - 10.21.1.120:6380@16380
 - Replica/Slave - 10.21.1.3:6382@16382



理想的聯級複製



- 最上面的圖都沒有提到 cluster 狀態，就代表 cluster 在這些架構轉換裡面是不被考慮的。

```
## 登入 cluster 任一主機，以 master 身分登入，擷取 vs-b 的 instance 資訊
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster nodes | grep 10.21.1.3
Warning: Using a password with '-a' or '-u' option on the command line interface may not be safe.
959f6718cefd96214ec46025e835f9b405802983 10.21.1.3:6380@16380 slave b96b5dd558e7568f383aa4b2fa625edac4bd020 0 1673252273000 17 connected
289cd799d35d8362a87c94057879bb111875e57a 10.21.1.3:6382@16382 slave fb7a8a516331499dc0cce6e754651192487a2692 0 1673252272000 15 connected
6de8c57e166e6987e4f6473181d237c261ce41e5 10.21.1.3:6378@16378 master, fail - 1673247094291 1673247090282 16 disconnected

## 把三個 vs-b 的 instance 逐一從 cluster 刪除
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster forget 959f6718cefd96214ec46025e835f9b4058029
Warning: Using a password with '-a' or '-u' option on the command line interface may not be safe.
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster forget 289cd799d35d8362a87c94057879bb111875e5
Warning: Using a password with '-a' or '-u' option on the command line interface may not be safe.
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster forget 6de8c57e166e6987e4f6473181d237c261ce41
Warning: Using a password with '-a' or '-u' option on the command line interface may not be safe.
OK
[gok@vs-uat-redis-01 ~]$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster nodes | grep 10.21.1.3
Warning: Using a password with '-a' or '-u' option on the command line interface may not be safe.
```

```
## 確認現存的 cluster nodes 中是否還有 vs-b 的 instance 資訊
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6377 -c -a newld20200909 cluster nodes 2> /dev/null
fb7a8a516331499dc0cce6e754651192487a2692 10.21.1.122:6377@16377 master - 0 1673252540972 15 connected 10923-16383
f7def362c61ae67a2025f8f820062c40d8061743 10.21.1.120:6380@16380 slave fb7a8a516331499dc0cce6e754651192487a2692 0 1673252538000 15 connected
9cc6fcd015145cfe8bf81150bd58b4b8397e07e0 10.21.1.121:6380@16380 slave 23a405fd0d07732e0117bb367f9e0b850ebfb14b 0 1673252538000 17 connected
04349595dc7b856fd27a2c87d33c842cd506e1f2 10.21.1.122:6380@16380 slave b96b5dd558e7568f383aa4ab2fa625edac4bd020 0 1673252538963 17 connected
959f6718cefd96214ec46025e835f9b405802983 10.21.1.3:6380@16380 slave b96b5dd558e7568f383aa4ab2fa625edac4bd020 0 1673252540000 17 connected
289cd799d35d8362a87c94057879bb111875e57a 10.21.1.3:6382@16382 slave fb7a8a516331499dc0cce6e754651192487a2692 0 1673252537000 15 connected
b96b5dd558e7568f383aa4ab2fa625edac4bd020 10.21.1.121:6377@16377 master - 0 1673252537959 17 connected 5462-10922
42ce7ed8f1c54d4c7ea694fc034d644f514fb134 10.21.1.3:6378@16378 handshake - 1673252527819 0 0 disconnected
23a405fd0d07732e0117bb367f9e0b850ebfb14b 10.21.1.120:6377@16377 myself,master - 0 1673252537000 16 connected 0-5461
```

```
## 修改 vs-b 各 instance 的 conf 檔案
## 主要是把 cluster-enabled yes 變成註解或是 cluster-enabled no
$ vim /opt/centos/redis-6378.conf
$ vim /opt/centos/redis-6380.conf
$ vim /opt/centos/redis-6382.conf
```

```
## 從 redis 源站的 dump.rdb 傳送檔案到 b 站機器
# 以 gok 身分
$ vim ~/.ssh/gok_rsa
$ chmod 600 ~/.ssh/gok_rsa
$ vim ~/.ssh/config
$ chmod 600 ~/.ssh/config
```

```
## 從 redis 源站分別傳送 dump.rdb 到 b 站主機
$ scp -i gok_rsa gok@10.21.1.120:/usr/local/redis-cluster/data/dump.rdb /home/gok/dump.rdb 100% 1
$ mv /home/gok/dump.rdb /home/gok/dump.rdb-120
```

```
$ scp -i gok_rsa gok@10.21.1.121:/usr/local/redis-cluster/data/dump.rdb /home/gok/dump.rdb 100%
$ mv /home/gok/dump.rdb /home/gok/dump.rdb-121
```

```
$ scp -i gok_rsa gok@10.21.1.122:/usr/local/redis-cluster/data/dump.rdb /home/gok/dump.rdb 100% 2
$ mv /home/gok/dump.rdb /home/gok/dump.rdb-122
```

```
$ touch /home/gok/dump.rdb
$ cat /home/gok/dump.rdb-120 >> /home/gok/dump.rdb
$ cat /home/gok/dump.rdb-121 >> /home/gok/dump.rdb
$ cat /home/gok/dump.rdb-122 >> /home/gok/dump.rdb
$ mv /home/gok/dump.rdb /home/gok/dump.rdb-source
$ sudo cp /home/gok/dump.rdb-source /usr/local/redis-cluster/data
```

```
## 關閉所有 redis 服務
$ sudo netstat -nulp | grep -e :63 -e "redis-server 1" | awk '{print $7}' | awk -F '/' '{print $1}' | xargs kill
```

```
## 把源站的 dump.rdb 取代原本的 dump.rdb (拿到老早設定好的 key)
mv /usr/local/redis-cluster/data/dump.rdb /usr/local/redis-cluster/data/dump.rdb.origin
# mv /usr/local/redis-cluster/data/appendonly.aof /usr/local/redis-cluster/data/appendonly.aof.origin
mv /usr/local/redis-cluster/data/nodes-6378.conf /usr/local/redis-cluster/data/nodes-6378.conf.origin
mv /usr/local/redis-cluster/data/nodes-6380.conf /usr/local/redis-cluster/data/nodes-6380.conf.origin
mv /usr/local/redis-cluster/data/nodes-6382.conf /usr/local/redis-cluster/data/nodes-6382.conf.origin
```

```
## 啟動三個 port
$ /usr/local/redis-cluster/bin/redis-server /opt/centos/redis-6378.conf
$ /usr/local/redis-cluster/bin/redis-server /opt/centos/redis-6380.conf
$ /usr/local/redis-cluster/bin/redis-server /opt/centos/redis-6382.conf
```

```
## 串連 vs-a 的 slave 成為 vs-b 的 master
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` | cut -d ' ' -f 1` -p 6378 -a newld20200909 replicaof 10.21.1.120 6380 2> /dev/null
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` | cut -d ' ' -f 1` -p 6380 -a newld20200909 replicaof 10.21.1.121 6380 2> /dev/null
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` | cut -d ' ' -f 1` -p 6382 -a newld20200909 replicaof 10.21.1.122 6380 2> /dev/null
OK
```

```
### 查看 vs-b 這三個 instance 的 replication 狀態
```

```
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` | cut -d ' ' -f 1` -p 6378 -a newld20200909 info replication 2> /dev/null
# Replication
```



```

## 如果看到 cluster nodes 有 @@@ 這樣的資料，
## 代表這個 node-id 已經斷了，必須要從個別主機的 port 分別登入去用 cluster forget 刪除它
## 只有在單一節點刪除，不會在所有節點都消失

$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster nodes | grep ':@@0'
3ccf37ae8262cbb85040f84ca913b055a5f2a3bc :@@0 slave,fail,noaddr 23a405fd0d07732e0117bb367f9e0b850ebfb14b 1675655056027 1675655052017 23 dis
6de8c57e166e6987e4f6473181d237c261ce41e5 :@@0 master,fail,noaddr - 1675062564495 1675062564495 16 disconnected
289cd799d35d8362a87c94057879bb111875e57a :@@0 slave,fail,noaddr fb7a8a516331499dc0cce6e754651192487a2692 1675062564495 1675062564495 15 dis
3256da6d81899f6fc84a44e41f20bd1db2799d7d :@@0 slave,fail,noaddr 23a405fd0d07732e0117bb367f9e0b850ebfb14b 1675655056027 1675655054022 23 dis
8b33dead87439267ce24e6fa08b85160fc826a35 :@@0 slave,fail,noaddr fb7a8a516331499dc0cce6e754651192487a2692 1675655056027 1675655050000 21 dis
959f6718cefd96214ec46025e835f9b405802983 :@@0 slave,fail,noaddr b96b5dd558e7568f383aa4ab2fa625edac4bd020 1675062564495 1675062564495 17 dis

$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 3ccf37ae8262cbb85040f84ca913
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 6de8c57e166e6987e4f6473181d2
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 289cd799d35d8362a87c94057879
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 3256da6d81899f6fc84a44e41f20
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 8b33dead87439267ce24e6fa08b8
OK
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster forget 959f6718cefd96214ec46025e835
OK

## 最後檢查
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster nodes | grep ':@@0'

## 完整結果 (這樣 check_redis.sh 才不會報錯)
$ /usr/local/redis-cluster/bin/redis-cli -h `hostname -i` -p 6380 -a newld20200909 2> /dev/null cluster nodes
04349595dc7b856fd27a2c87d33c842cd506e1f2 10.21.1.122:6380@16380 slave b96b5dd558e7568f383aa4ab2fa625edac4bd020 0 1675671057914 20 connected
23a405fd0d07732e0117bb367f9e0b850ebfb14b 10.21.1.120:6377@16377 master - 0 1675671056911 23 connected 0-5460
b96b5dd558e7568f383aa4ab2fa625edac4bd020 10.21.1.121:6377@16377 master - 0 1675671055000 19 connected 10922-16383
fb7a8a516331499dc0cce6e754651192487a2692 10.21.1.122:6377@16377 master - 0 1675671056000 21 connected 5461-10921
a9cc6fcd015145cfe8bf81150bd58b4b8397e07e0 10.21.1.121:6380@16380 slave 23a405fd0d07732e0117bb367f9e0b850ebfb14b 0 1675671055908 23 connecte
f7def362c61ae67a2025f8f820062c40d8061743 10.21.1.120:6380@16380 myself,slave fb7a8a516331499dc0cce6e754651192487a2692 0 1675671056000 9 con

```