

1.1. 配置哨兵

启动哨兵进程首先需要创建哨兵配置文件：

```
vim sentinel.conf
```

输入内容：

```
sentinel monitor taotaoMaster 127.0.0.1 6379 1
```

说明：

taotaoMaster：监控主数据的名称，自定义即可，可以使用大小写字母和“.-_”符号

127.0.0.1：监控的主数据库的IP

6379：监控的主数据库的端口

1：最低通过票数

启动哨兵进程：

```
redis-sentinel ./sentinel.conf
```

```
[root@taotao2 redis]# redis-sentinel ./sentinel.conf
2989:X 05 Jun 19:56:55.053 * Increased maximum number of open files to 10032 (it was originally set to 1024).

Redis 3.0.1 (00000000/0) 64 bit

Running in sentinel mode
Port: 26379
PID: 2989

http://redis.io

2989:X 05 Jun 19:56:55.053 # Sentinel runid is 9059917216012421e8e89a4aa02f15b75346d2b7
2989:X 05 Jun 19:56:55.053 # +monitor master taotaoMaster 127.0.0.1 6379 quorum 1
2989:X 05 Jun 19:56:55.055 * +slave slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379
2989:X 05 Jun 19:56:55.066 * +slave slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster 127.0.0.1 6379
```

由上图可以看到：

- 1、哨兵已经启动，它的id为9059917216012421e8e89a4aa02f15b75346d2b7
- 2、为master数据库添加了一个监控
- 3、发现了2个slave（由此可以看出，哨兵无需配置slave，只需要指定master，哨兵会自动发现slave）

1.2. 从数据库宕机

```
[root@taotao2 ~]# ps -ef|grep redis
root      2615      1  0 18:43 ?        00:00:04 redis-server *:6379
root      2626      1  0 18:44 ?        00:00:04 redis-server *:6380
root      2863      1  0 19:32 ?        00:00:01 redis-server *:6381
root      2989    1428  0 19:56 pts/0    00:00:01 redis-sentinel *:26379 [sentinel]
root      3076    3056  0 20:06 pts/1    00:00:00 grep redis
[root@taotao2 ~]#
```

kill掉2826进程后，30秒后哨兵的控制台输出：

```
2989:X 05 Jun 20:09:33.509 # +sdown slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379
```

说明已经监控到slave宕机了，那么，如果我们将3380端口的redis实例启动后，会自动加入到主从复制吗？

```
2989:X 05 Jun 20:13:22.716 * +reboot slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379
```

```
2989:X 05 Jun 20:13:22.788 # -sdown slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379
```

可以看出，slave从新加入到了主从复制中。-sdown：说明是恢复服务。

```
127.0.0.1:6379> INFO replication
# Replication
role:master
connected_slaves:2
slave0:ip=127.0.0.1,port=6381,state=online,offset=83514,lag=1
slave1:ip=127.0.0.1,port=6380,state=online,offset=83514,lag=1
master_repl_offset:83514
repl_backlog_active:1
repl_backlog_size:1048576
repl_backlog_first_byte_offset:2
repl_backlog_histlen:83513
```

1.3. 主库宕机

哨兵控制台打印出如下信息：

```
2989:X 05 Jun 20:16:50.300 # +sdown master taotaoMaster 127.0.0.1 6379 说明master服务已经宕机
```

```
2989:X 05 Jun 20:16:50.300 # +odown master taotaoMaster 127.0.0.1 6379 #quorum 1/1
```

```
2989:X 05 Jun 20:16:50.300 # +new-epoch 1
```

```
2989:X 05 Jun 20:16:50.300 # +try-failover master taotaoMaster 127.0.0.1 6379 开始恢复故障
```

2989:X 05 Jun 20:16:50.304 # +vote-for-leader 9059917216012421e8e89a4aa02f15b75346d2b7 1 投票选举哨兵leader，现在就一个哨兵所以leader就自己

2989:X 05 Jun 20:16:50.304 # +elected-leader master taotaoMaster 127.0.0.1 6379 选中leader

2989:X 05 Jun 20:16:50.304 # +failover-state-select-slave master taotaoMaster 127.0.0.1 6379 选中其中的一个slave当做master

2989:X 05 Jun 20:16:50.357 # +selected-slave slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster 127.0.0.1 6379 选中6381

2989:X 05 Jun 20:16:50.357 * +failover-state-send-slaveof-noone slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster 127.0.0.1 6379 发送slaveof no one命令

2989:X 05 Jun 20:16:50.420 * +failover-state-wait-promotion slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster 127.0.0.1 6379 等待升级master

2989:X 05 Jun 20:16:50.515 # +promoted-slave slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster 127.0.0.1 6379 升级6381为master

2989:X 05 Jun 20:16:50.515 # +failover-state-reconf-slaves master taotaoMaster 127.0.0.1 6379

2989:X 05 Jun 20:16:50.566 * +slave-reconf-sent slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379

2989:X 05 Jun 20:16:51.333 * +slave-reconf-inprog slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379

2989:X 05 Jun 20:16:52.382 * +slave-reconf-done slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6379

2989:X 05 Jun 20:16:52.438 # +failover-end master taotaoMaster 127.0.0.1 6379 故障恢复完成

2989:X 05 Jun 20:16:52.438 # +switch-master taotaoMaster 127.0.0.1 6379 127.0.0.1 6381 主数据库从6379转变为6381

2989:X 05 Jun 20:16:52.438 * +slave slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster 127.0.0.1 6381 添加6380为6381的从库

2989:X 05 Jun 20:16:52.438 * +slave slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster 127.0.0.1 6381 添加6379为6381的从库

2989:X 05 Jun 20:17:22.463 # +sdown slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster 127.0.0.1 6381 发现6379已经宕机，等待6379的恢复

```
[root@taotao2 6380]# redis-cli -p 6381
127.0.0.1:6381> INFO replication
# Replication
role:master
connected_slaves:1
slave0:ip=127.0.0.1,port=6380,state=online,offset=69815,lag=1
master_repl_offset:69952
repl_backlog_active:1
repl_backlog_size:1048576
repl_backlog_first_byte_offset:2
repl_backlog_histlen:69951
127.0.0.1:6381> █
```

可以看出，目前，6381位master，拥有一个slave为6380。

接下来，我们恢复6379查看状态：

2989:X 05 Jun 20:35:32.172 # -sdown slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster 127.0.0.1 6381 **6379**
已经恢复服务

2989:X 05 Jun 20:35:42.137 * +convert-to-slave slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster 127.0.0.1
6381 **将6379设置为6381的slave**

```
127.0.0.1:6381> INFO replication
# Replication
role:master
connected_slaves:2
slave0:ip=127.0.0.1,port=6380,state=online,offset=82845,lag=0
slave1:ip=127.0.0.1,port=6379,state=online,offset=82845,lag=0
master_repl_offset:82845
```

1.4. 配置多个哨兵

`vim sentinel.conf`

输入内容：

```
sentinel monitor taotaoMaster 127.0.0.1 6381 2
sentinel monitor taotaoMaster2 127.0.0.1 6381 1
```

```
3451:X 05 Jun 21:05:56.083 # +sdown master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:56.083 # +odown master taotaoMaster2 127.0.0.1 6381 #quorum 1/1
3451:X 05 Jun 21:05:56.083 # +new-epoch 1
3451:X 05 Jun 21:05:56.083 # +try-failover master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:56.086 # +vote-for-leader 3f020a35c9878a12d2b44904f570dc0d4015c2ba 1
3451:X 05 Jun 21:05:56.086 # +elected-leader master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:56.086 # +failover-state-select-slave master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:56.087 # +sdown master taotaoMaster 127.0.0.1 6381
3451:X 05 Jun 21:05:56.189 # +selected-slave slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster2 127.0.0.1
6381
3451:X 05 Jun 21:05:56.189 * +failover-state-send-slaveof-noone slave 127.0.0.1:6380 127.0.0.1 6380 @
taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:56.252 * +failover-state-wait-promotion slave 127.0.0.1:6380 127.0.0.1 6380 @
taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:57.145 # +promoted-slave slave 127.0.0.1:6380 127.0.0.1 6380 @ taotaoMaster2 127.0.0.1
6381
```

3451:X 05 Jun 21:05:57.145 # +failover-state-reconf-slaves master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:57.234 * +slave-reconf-sent slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster2
127.0.0.1 6381
3451:X 05 Jun 21:05:58.149 * +slave-reconf-inprog slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster2
127.0.0.1 6381
3451:X 05 Jun 21:05:58.149 * +slave-reconf-done slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster2
127.0.0.1 6381
3451:X 05 Jun 21:05:58.203 # +failover-end master taotaoMaster2 127.0.0.1 6381
3451:X 05 Jun 21:05:58.203 # +switch-master taotaoMaster2 127.0.0.1 6381 127.0.0.1 6380
3451:X 05 Jun 21:05:58.203 * +slave slave 127.0.0.1:6379 127.0.0.1 6379 @ taotaoMaster2 127.0.0.1 6380
3451:X 05 Jun 21:05:58.203 * +slave slave 127.0.0.1:6381 127.0.0.1 6381 @ taotaoMaster2 127.0.0.1 6380