

## Windows Redis3.2 集群搭建

### 1. 环境准备

Redis3.2 下载（下载 Redis-x64-3.2.100.zip）:

<https://github.com/MicrosoftArchive/redis/releases>

Ruby 下载:

<http://dl.bintray.com/oneclick/rubyinstaller/rubyinstaller-2.2.4-x64.exe>

Ruby 环境下 Redis 驱动:

<https://rubygems.org/gems/redis/versions/3.2.2>

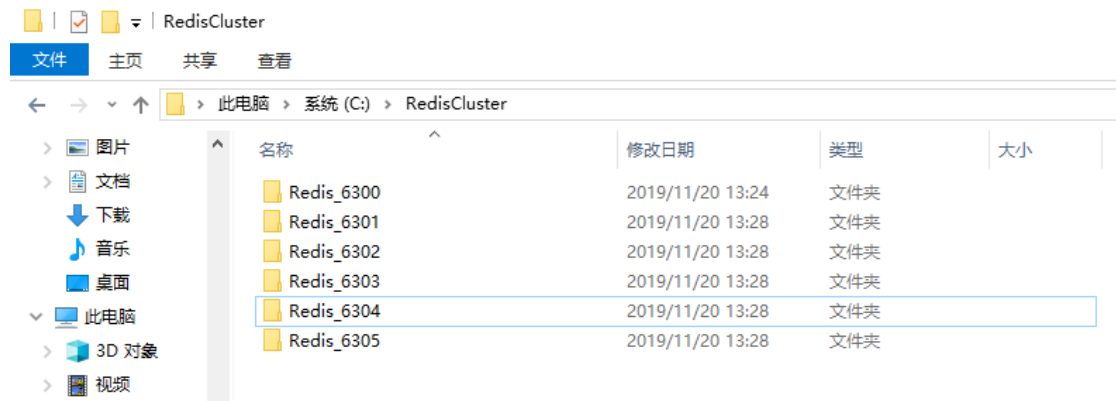
Redis 官方提供的创建 Redis 集群 Ruby 脚本:

<https://raw.githubusercontent.com/MSOpenTech/redis/3.0/src/redis-trib.rb>

### 2. 安装配置 Redis

规划集群 3 主 3 从一共 6 个节点，6300、6301、6302、6303、6304、6305

1. 将安装包解压后再复制 5 份，效果如图:



备注：正常 Redis 下面是有 redis.windows.conf、redis.windows-service.conf 2 个配置文件，因为会将这些注册成系统服务，所以使用 redis.windows-service.conf 即可。

### 3. 修改 6300、6301、6302、6303、6304、6305 件，注意把 6379 改成相应端口号，内容如下:

# IP 地址

bind 127.0.0.1

# 端口号

port 6380

cluster-node-timeout 15000

# 开启 AOF

appendonly yes

# 开启集群

cluster-enabled yes

cluster-config-file nodes-6380.conf

```
cluster-slave-validity-factor 10
cluster-migration-barrier 1
cluster-require-full-coverage yes
```

#### 4. 注册 Redis 服务

安装命令：

```
C:\RedisCluster\Redis_6300\redis-server.exe --service-install
C:\RedisCluster\Redis_6300\redis.windows-service.conf --service-
name Redis6300
```

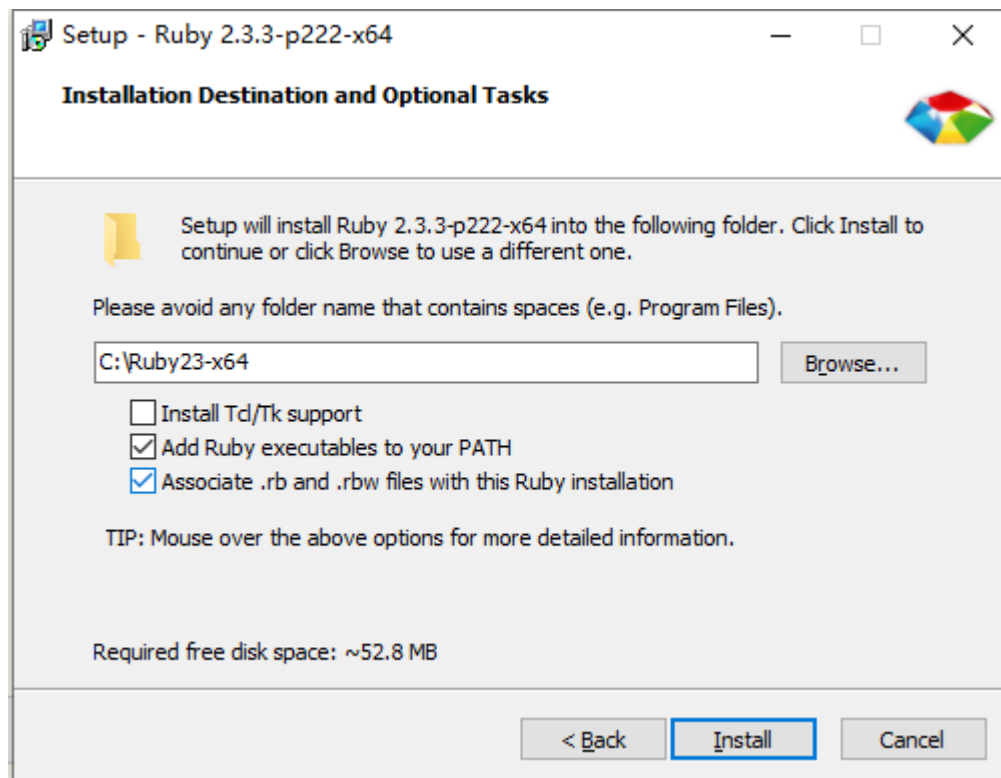
卸载命令：

```
C:\RedisCluster\Redis_6300\redis-server.exe --service-uninstall
C:\RedisCluster\Redis_6300\redis.windows-service.conf --service-
name Redis6300
```

效果如图：

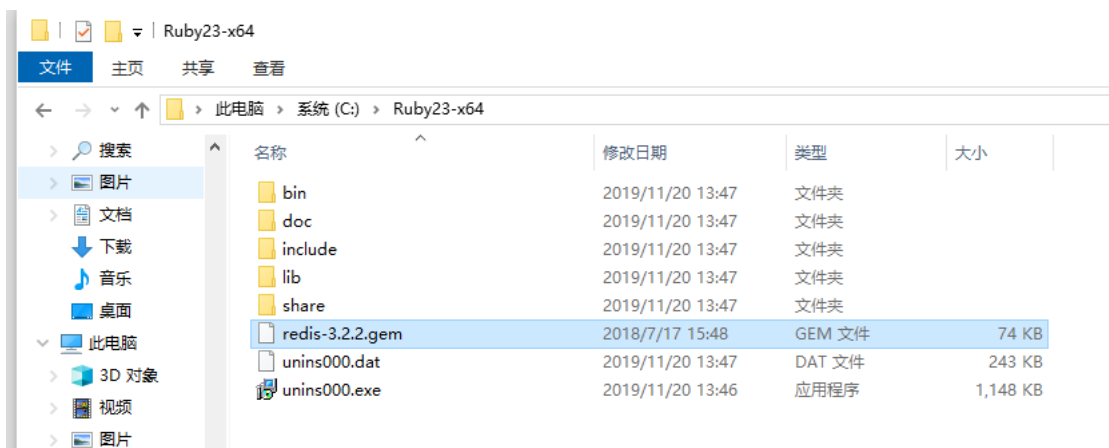
redis6305	正在运行	自动	网络服务
redis6304	正在运行	自动	网络服务
redis6303	正在运行	自动	网络服务
redis6302	正在运行	自动	网络服务
redis6301	正在运行	自动	网络服务
redis6300	正在运行	自动	网络服务

#### 5. 安装 Ruby



#### 6. 安装 Ruby 环境下的 Redis 驱动

将下载的“Ruby 环境下 Redis 的驱动文件(redis-3.2.2.gem)”拷贝到 Ruby 安装根目录(C:\Ruby22-x64)下。



然后执行安装命令如下：

`gem install --local C:\Ruby23-x64\redis-3.2.2.gem`

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [版本 10.0.18362.476]
(c) 2019 Microsoft Corporation。保留所有权利。

C:\Users\Administrator>cd C:\Ruby23-x64

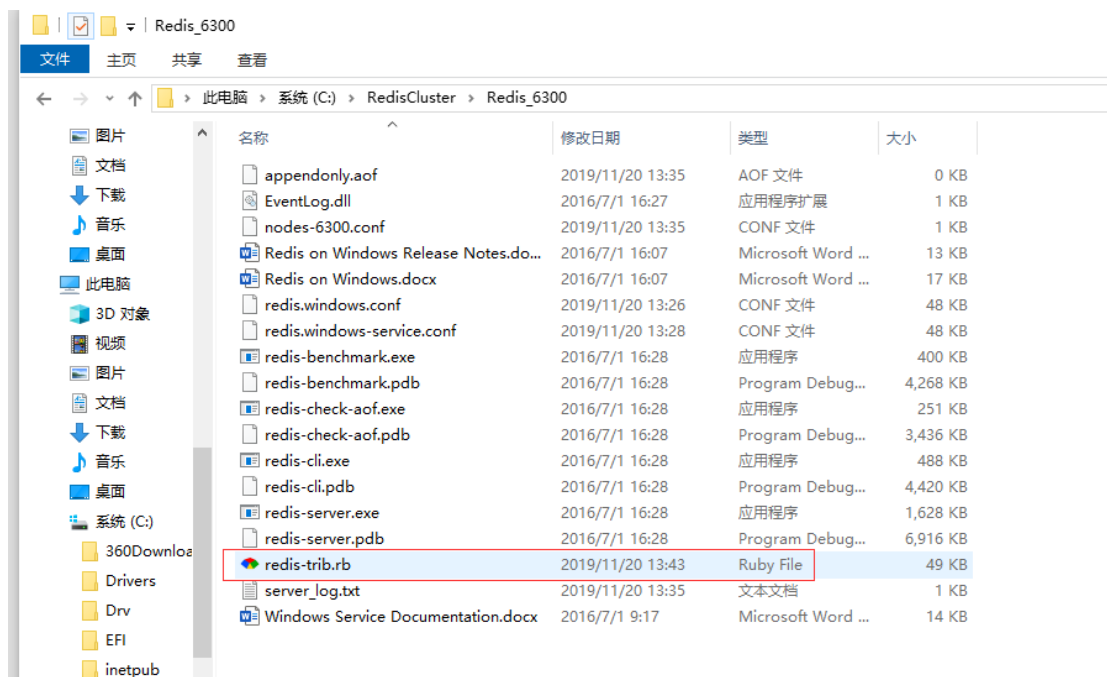
C:\Ruby23-x64>gem install --local path_to_gem/filename.gem
ERROR: Could not find a valid gem 'path_to_gem/filename.gem' (>= 0) in any repository

C:\Ruby23-x64>gem install --local C:\Ruby23-x64\redis-3.2.2.gem
Successfully installed redis-3.2.2
Parsing documentation for redis-3.2.2
Installing ri documentation for redis-3.2.2
Done installing documentation for redis after 2 seconds
1 gem installed

C:\Ruby23-x64>
```

## 7. 创建集群

1、将下载的“创建 Redis 集群的 ruby 脚本文件 redis-trib.rb”文件拷贝到 Redis\_6300 根目录下。



## 2、使用 redis-trib.rb 创建集群

进入 Redis\_6300 目录，执行 `redis-trib.rb create --replicas 1`  
 192.168.90.56:6300          192.168.90.56:6301          192.168.90.56:6302  
 192.168.90.56:6303 192.168.90.56:6304 192.168.90.56:6305

```
C:\WINDOWS\system32\cmd.exe - redis-trib.rb create --replicas 1 192.168.90.56:6300 192.168.90.56:6301 192.168.90.56:6302 192.168.90.56:6303 192.168.90.56:6304 192.168.90.56:6305
Microsoft Windows [版本 10.0.18362.476]
(c) 2019 Microsoft Corporation。保留所有权利。

C:\Users\Administrator>cd C:\RedisCluster\Redis_6300

C:\RedisCluster\Redis_6300>redis-trib.rb create --replicas 1 192.168.90.56:6300 192.168.90.56:6301 192.168.90.56:6302 192.168.90.56:6303 192.168.90.56:6304 192.168.90.56:6305
>>> Creating cluster
Connecting to node 192.168.90.56:6300: OK
Connecting to node 192.168.90.56:6301: OK
Connecting to node 192.168.90.56:6302: OK
Connecting to node 192.168.90.56:6303: OK
Connecting to node 192.168.90.56:6304: OK
Connecting to node 192.168.90.56:6305: OK
>>> Performing hash slots allocation on 6 nodes...
Using 3 masters:
192.168.90.56:6300
192.168.90.56:6301
192.168.90.56:6302
Adding replica 192.168.90.56:6303 to 192.168.90.56:6300
Adding replica 192.168.90.56:6304 to 192.168.90.56:6301
Adding replica 192.168.90.56:6305 to 192.168.90.56:6302
M: b271ef43ea6d087cable3872ff7b86e359d20d13 192.168.90.56:6300
slots:0-5460 (5461 slots) master
M: 8a63a813761fd6c85d886eaf8992d6b3a2d61c08 192.168.90.56:6301
slots:5461-10922 (5462 slots) master
M: 94b9f6895f6a7792d2f422eba0c274495f26dafc 192.168.90.56:6302
slots:10923-16383 (5461 slots) master
S: 6ce688dee04c41albbed197fc896e97782b868a1 192.168.90.56:6303
replicas b271ef43ea6d087cable3872ff7b86e359d20d13
S: c61cab42c6bb1fed885d5e3817cb685d6223f2a 192.168.90.56:6304
replicas 8a63a813761fd6c85d886eaf8992d6b3a2d61c08
S: b39ecadcf0d3807736201d4ae27ee2b64321c848 192.168.90.56:6305
replicas 94b9f6895f6a7792d2f422eba0c274495f26dafc
Can I set the above configuration? (type 'yes' to accept): yes
>>> Nodes configuration updated
>>> Assign a different config epoch to each node
>>> Sending CLUSTER MEET messages to join the cluster
Waiting for the cluster to join...
```

备注:

1. `--replicas #`指定集群中每个主节点配备几个从节点，这里设置为 1。
2. `redis-trib.rb` 工具的使用

- 1) create: 创建集群
- 2) check: 检查集群
- 3) info: 查看集群信息
- 4) fix: 修复集群
- 5) reshard: 在线迁移 slot
- 6) rebalance: 平衡集群节点 slot 数量
- 7) add-node: 将新节点加入集群
- 8) del-node: 从集群中删除节点
- 9) set-timeout: 设置集群节点间心跳连接的超时时间

### 3、校验是否成功

输入以下命令:

```
redis-trib.rb check 192.168.90.56:6300
```

如果出现以下内容则集群搭建成功。

```
C:\RedisCluster\Redis_6300>redis-trib.rb check 192.168.90.56:6300
Connecting to node 192.168.90.56:6300: OK
Connecting to node 192.168.90.56:6301: OK
Connecting to node 192.168.90.56:6302: OK
Connecting to node 192.168.90.56:6305: OK
Connecting to node 192.168.90.56:6304: OK
Connecting to node 192.168.90.56:6303: OK
>>> Performing Cluster Check (using node 192.168.90.56:6300)
M: b271ef43ea6d087cable3872ff7b86e359d20d13 192.168.90.56:6300
  slots:0-5460 (5461 slots) master
  1 additional replica(s)
M: 8a63a813761fd6c85d886eaf8992d6b3a2d61c08 192.168.90.56:6301
  slots:5461-10922 (5462 slots) master
  1 additional replica(s)
M: 94b9f6895f6a7792d2f422eba0c274495f26dafc 192.168.90.56:6302
  slots:10923-16383 (5461 slots) master
  1 additional replica(s)
S: b39ecadcf0d3807736201d4ae27ee2b64321c848 192.168.90.56:6305
  slots: (0 slots) slave
  replicates 94b9f6895f6a7792d2f422eba0c274495f26dafc
S: cellcab42c6bb1fed885d5e3817cb685d6223f2a 192.168.90.56:6304
  slots: (0 slots) slave
  replicates 8a63a813761fd6c85d886eaf8992d6b3a2d61c08
S: 6ce688dee04c41a1bbed197fc896e97782b868a1 192.168.90.56:6303
  slots: (0 slots) slave
  replicates b271ef43ea6d087cable3872ff7b86e359d20d13
[OK] All nodes agree about slots configuration.
>>> Check for open slots...
>>> Check slots coverage...
[OK] All 16384 slots covered.
C:\RedisCluster\Redis_6300>_
```

### 8. 设置 Redis 密码

修改所有节点配置文件内容, 并重启 Redis 服务

```
masterauth 123456
```

```
requirepass 123456
```

## 9. 集群节点操作

新增主节点:

```
redis-trib.rb add-node 192.168.90.56:6306 192.168.90.56:6300
```

新增从节点:

```
redis-trib.rb add-node --slave 192.168.90.56:6306  
192.168.90.56:6300
```

```
redis-trib.rb add-node --slave --master-id  
863203beac4e9e1fd85b218fc388f8b8ac9d2218 192.168.230.129:6393  
192.168.230.129:6380
```

重新分配槽:

```
redis-trib.rb reshard 192.168.90.56:6300
```

删除节点:

```
redis-trib.rb del-node 192.168.230.129:6393  
05945dcae79aca1425f68ca95f2aaf4d44b2167a
```

集群修复:

```
redis-trib.rb fix 192.168.90.56:6300
```

检查节点:

```
redis-trib.rb check 192.168.90.56:6300
```

附注参考链接:

<https://www.cnblogs.com/maybesuch/p/10309403.html>

## 10. 常用命令

# 登录 redis 集群

```
redis-cli.exe -c -h 192.168.90.56 -p 6300 -a 123456
```

# 查看集群节点信息

```
cluster nodes
```

# 查看节点信息

```
info replication
```