

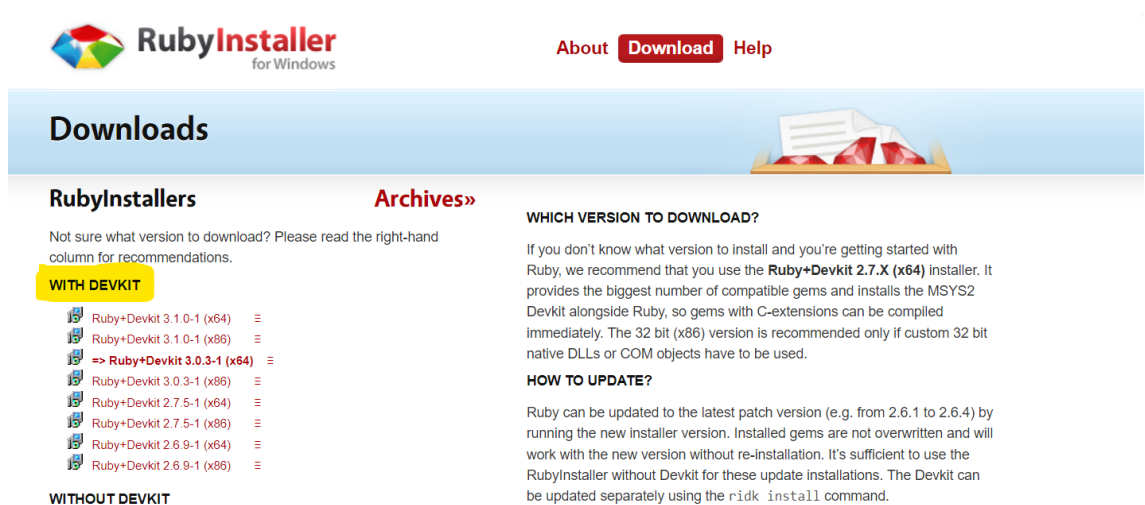
# Redis Cluster

Este tutorial tem a intenção de mostrar como criar um cluster do Redis local para o Sistema Operacional Windows.

## 1. Instalar Ruby

Instalar a linguagem de programação Ruby através do link <https://rubyinstaller.org/downloads/>

Deverá ser instalado a versão **WITH DEVKIT 2.7.5.1**



**RubyInstaller** for Windows

About Download Help

### Downloads

#### RubyInstallers

Not sure what version to download? Please read the right-hand column for recommendations.

**WITH DEVKIT**

- Ruby+Devkit 3.1.0-1 (x64)
- Ruby+Devkit 3.1.0-1 (x86)
- => **Ruby+Devkit 3.0.3-1 (x64)**
- Ruby+Devkit 3.0.3-1 (x86)
- Ruby+Devkit 2.7.5-1 (x64)
- Ruby+Devkit 2.7.5-1 (x86)
- Ruby+Devkit 2.6.9-1 (x64)
- Ruby+Devkit 2.6.9-1 (x86)

**WITHOUT DEVKIT**

#### Archives»

#### WHICH VERSION TO DOWNLOAD?

If you don't know what version to install and you're getting started with Ruby, we recommend that you use the **Ruby+Devkit 2.7.X (x64)** installer. It provides the biggest number of compatible gems and installs the MSYS2 Devkit alongside Ruby, so gems with C-extensions can be compiled immediately. The 32 bit (x86) version is recommended only if custom 32 bit native DLLs or COM objects have to be used.

#### HOW TO UPDATE?

Ruby can be updated to the latest patch version (e.g. from 2.6.1 to 2.6.4) by running the new installer version. Installed gems are not overwritten and will work with the new version without re-installation. It's sufficient to use the RubyInstaller without Devkit for these update installations. The Devkit can be updated separately using the `ridk install` command.

Após a instalação verificar se o Ruby esta configurado nas variáveis de ambiente executando o comando:

- `ruby.exe -version`

```
PowerShell
PowerShell 7.2.1
Copyright (c) Microsoft Corporation.

https://aka.ms/powershell
Type 'help' to get help.

PS C:\Users\diego.zanetti> ruby.exe -version
ruby 2.7.5p203 (2021-11-24 revision f69aeb8314) [x64-mingw32]
```

Reiniciar o computador para que seja atualizado o **PATH** do Windows se o comando acima não for encontrado.

## 2. Dependências Redis para Ruby

Atualizar as GEMS do Ruby:

- `gem.cmd update --system`

Instalar as dependências do redis:

- gem.cmd install redis

### 3. Instalar Redis no Windows

Baixar o zip do redis através do link

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

Utilizar a versão estável 3.0.504 conforme imagem abaixo

01 Jul 2016

enricogior

win-3.2.100

def0757

Compare

**3.2.100**

Pre-release

This is the first release of Redis on Windows 3.2.

This release is based on antirez/redis/3.2.1 plus some Windows specific fixes. It has passed all the standard tests but it hasn't been tested in a production environment.

Therefore, before considering using this release in production, make sure to test it thoroughly in your own test environment.

See the [release notes](#) for details.

Assets 4

84 2 9 17 9 96 people reacted

01 Jul 2016

enricogior

win-3.0.504

10a978f

Compare

**3.0.504**

Latest

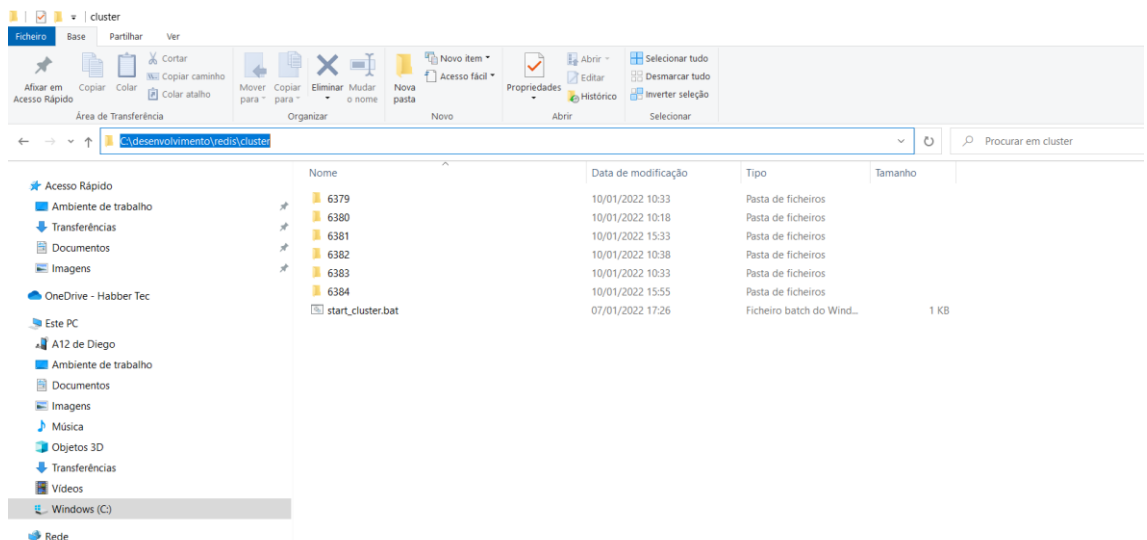
This is a critical bug fix release for Redis on Windows 3.0.

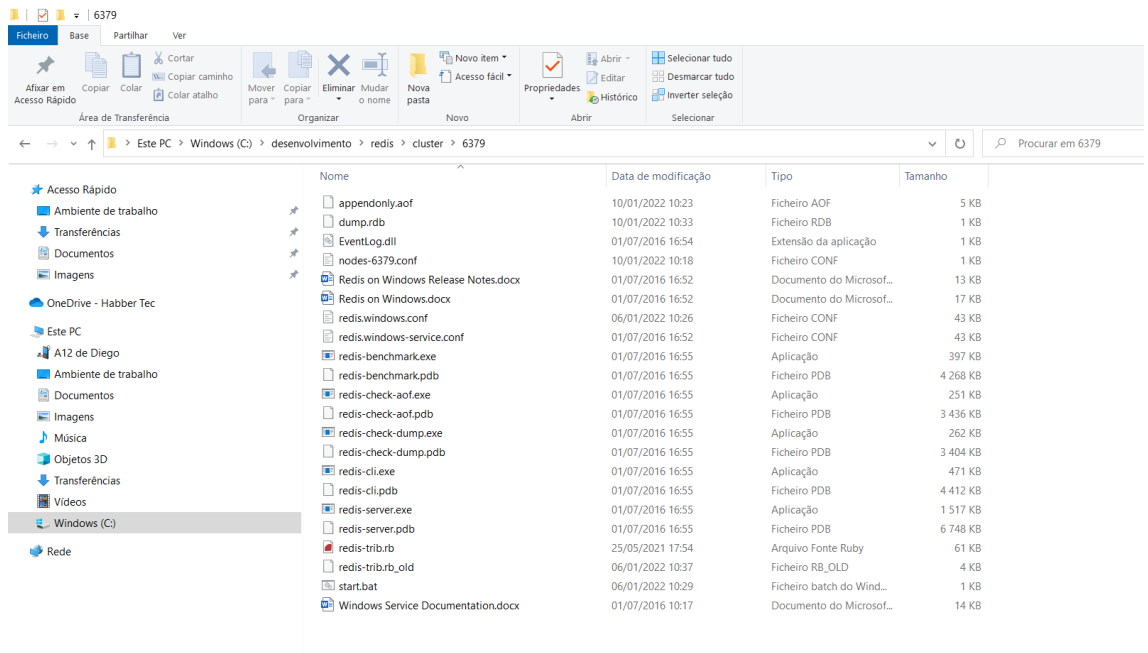
If you are running a previous version of 3.0 in a cluster configuration you should upgrade to 3.0.504 urgently. The fix resolves a problem with the cluster fail-over procedure.

This released is based on antirez/redis 3.0.5 plus Windows-specific fixes.

Descompactar para a pasta em C:\desenvolvimento\redis\cluster

Replicar a pasta descompactada 6 vezes e para cada copia renomear com o número da porta de 6379 até 6384 conforme imagem abaixo:



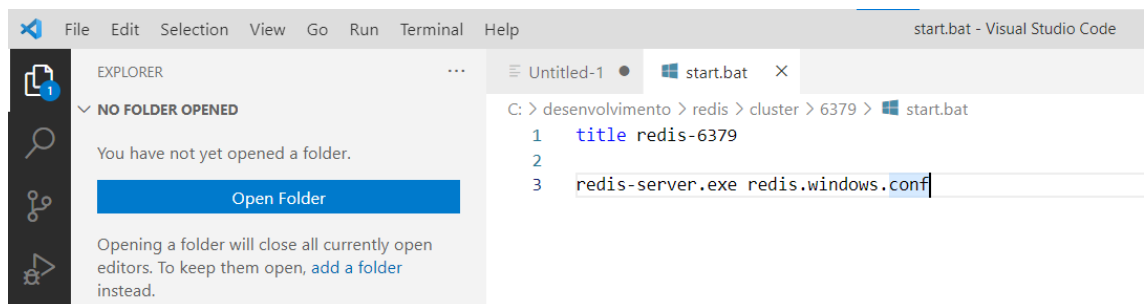


## 4. Configuração Redis

Para cada servidor redis criar um arquivo chamado **start.bat** e inserir o conteúdo, alterando o número da porta:

```
title redis-6379
```

```
redis-server.exe redis.windows.conf
```

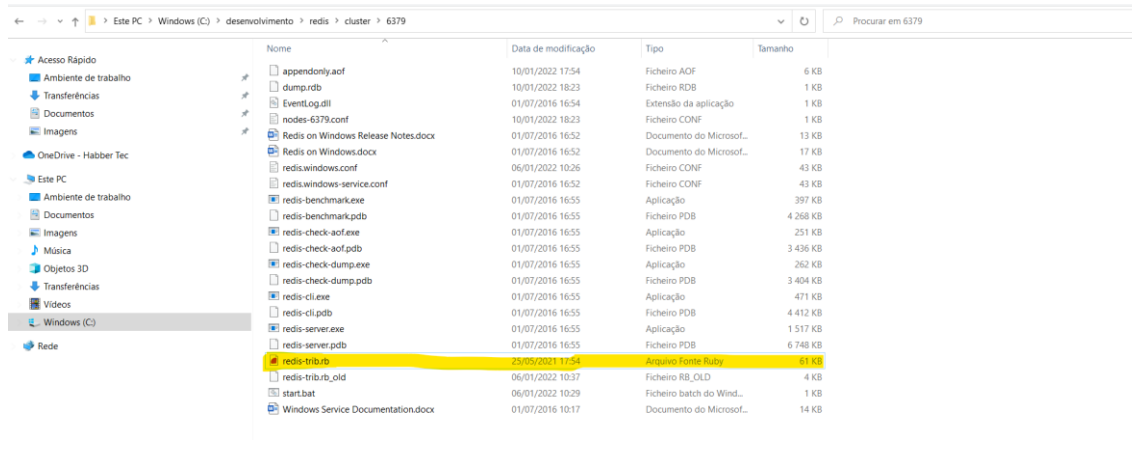


No arquivo **redis.windows.conf** alterar as seguintes configurações para cada servidor redis criado, lembrando sempre de alterar a porta aonde for mencionado, por default algumas configurações ficam comentadas, deverás remover o caracter **#**:

- port 6379
- cluster-enabled yes
- cluster-config-file nodes-6379.conf
- cluster-node-timeout 15000
- appendonly yes

## 5. Configuração do Cluster

Aceder a pasta do servidor redis 6379 e criar um arquivo chamado **redis-trib.rb**, conforme imagem abaixo:



Copiar o código abaixo para dentro do arquivo e salvar.

<https://github.com/dizanetti/redis-cluster/blob/main/redis-trib.rb>

## 6. Arrancar Redis Cluster

Deves entrar em cada pasta dos servidores do redis e executar o arquivo start.bat.

Abrir um prompt de comando dentro da pasta 6379 e executar o comando abaixo para criar o cluster:

- `ruby.exe redis-trib.rb create --replicas 1 127.0.0.1:6379 127.0.0.1:6380 127.0.0.1:6381 127.0.0.1:6382 127.0.0.1:6383 127.0.0.1:6384`**

Será preciso confirmar que aceitas as configurações, portanto digite **yes** quando for solicitado.

```

>>> Creating cluster
>>> Performing hash slots allocation on 6 nodes...
Using 3 masters:
127.0.0.1:6379
127.0.0.1:6380
127.0.0.1:6381
Adding replica 127.0.0.1:6382 to 127.0.0.1:6379
Adding replica 127.0.0.1:6383 to 127.0.0.1:6380
Adding replica 127.0.0.1:6384 to 127.0.0.1:6381
M: a43c16558953b9822d08f8bbcfcf362294fb3f4f 127.0.0.1:6379
  slots:0-5460 (5461 slots) master
M: 80c9095d03b53f7d1743cd2e4b0025a5dbd25d3b 127.0.0.1:6380
  slots:5461-10922 (5462 slots) master
M: 32ea191f21005f3b7c8a86fde088051d145657ae 127.0.0.1:6381
  slots:10923-16383 (5461 slots) master
S: 0c6221ccb8db59dd8ffe6dcc6ae614611279163e 127.0.0.1:6382
  replicates a43c16558953b9822d08f8bbcfcf362294fb3f4f
S: 1b776fa82a5aaeee028a2139b6e7f8b8ad0480df 127.0.0.1:6383
  replicates 80c9095d03b53f7d1743cd2e4b0025a5dbd25d3b
S: f818152af0708120c8f4f9a87842d1075707daa9 127.0.0.1:6384
  replicates 32ea191f21005f3b7c8a86fde088051d145657ae
Can I set the above configuration? (type 'yes' to accept): yes
>>> Nodes configuration updated
>>> Assign a different config epoch to each node

```

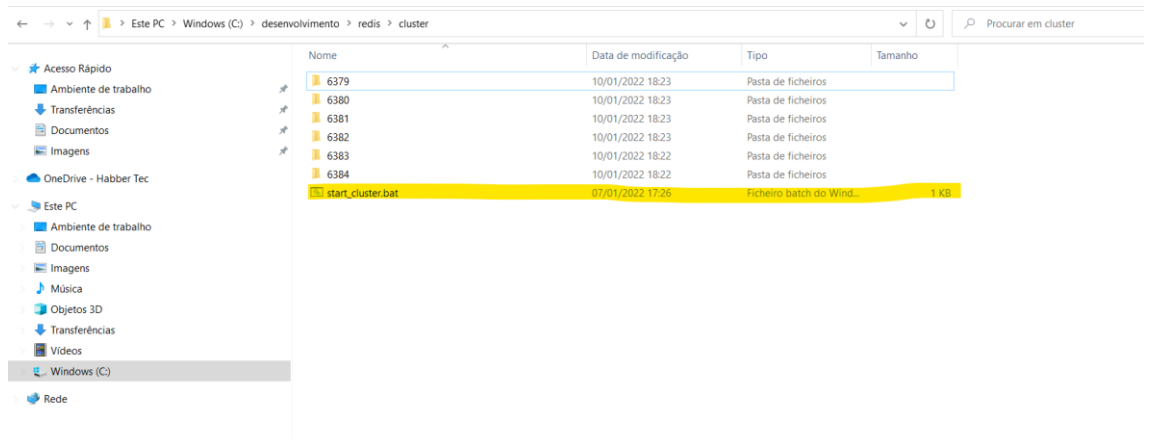
Se correr tudo bem será apresentado as informações abaixo:

```

redis-6379
replicates 80c9095d03b53f7d1743cd2e4b0025a5dbd25d3b
S: f818152af0708120c8f4f9a87842d1075707daa9 127.0.0.1:6384
  replicates 32ea191f21005f3b7c8a86fde088051d145657ae
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....
>>> Performing Cluster Check (using node 127.0.0.1:6379)
M: a43c16558953b9822d08f8bbcfcf362294fb3f4f 127.0.0.1:6379
  slots:0-5460 (5461 slots) master
  1 additional replica(s)
S: 1b776fa82a5aaeee028a2139b6e7f8b8ad0480df 127.0.0.1:6383
  slots: (0 slots) slave
  replicates 80c9095d03b53f7d1743cd2e4b0025a5dbd25d3b
M: 32ea191f21005f3b7c8a86fde088051d145657ae 127.0.0.1:6381
  slots:10923-16383 (5461 slots) master
  1 additional replica(s)
M: 80c9095d03b53f7d1743cd2e4b0025a5dbd25d3b 127.0.0.1:6380
  slots:5461-10922 (5462 slots) master
  1 additional replica(s)
S: f818152af0708120c8f4f9a87842d1075707daa9 127.0.0.1:6384
  slots: (0 slots) slave
  replicates 32ea191f21005f3b7c8a86fde088051d145657ae
S: 0c6221ccb8db59dd8ffe6dcc6ae614611279163e 127.0.0.1:6382
  slots: (0 slots) slave
  replicates a43c16558953b9822d08f8bbcfcf362294fb3f4f
[OK] All nodes agree about slots configuration.
>>> Check for open slots...
>>> Check slots coverage...
[OK] All 16384 slots covered.

```

Na pasta raiz do cluster criar um arquivo chamado **start\_cluster.bat**



Inserir as linhas abaixo para que seja executado cada servidor:

```
cd 6379/  
start start.bat  
cd ..
```

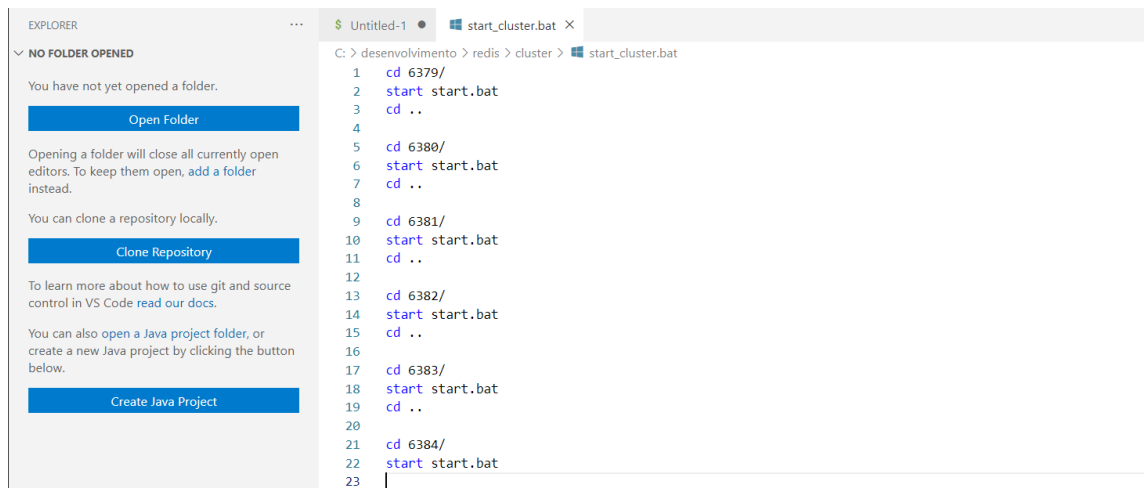
```
cd 6380/  
start start.bat  
cd ..
```

```
cd 6381/  
start start.bat  
cd ..
```

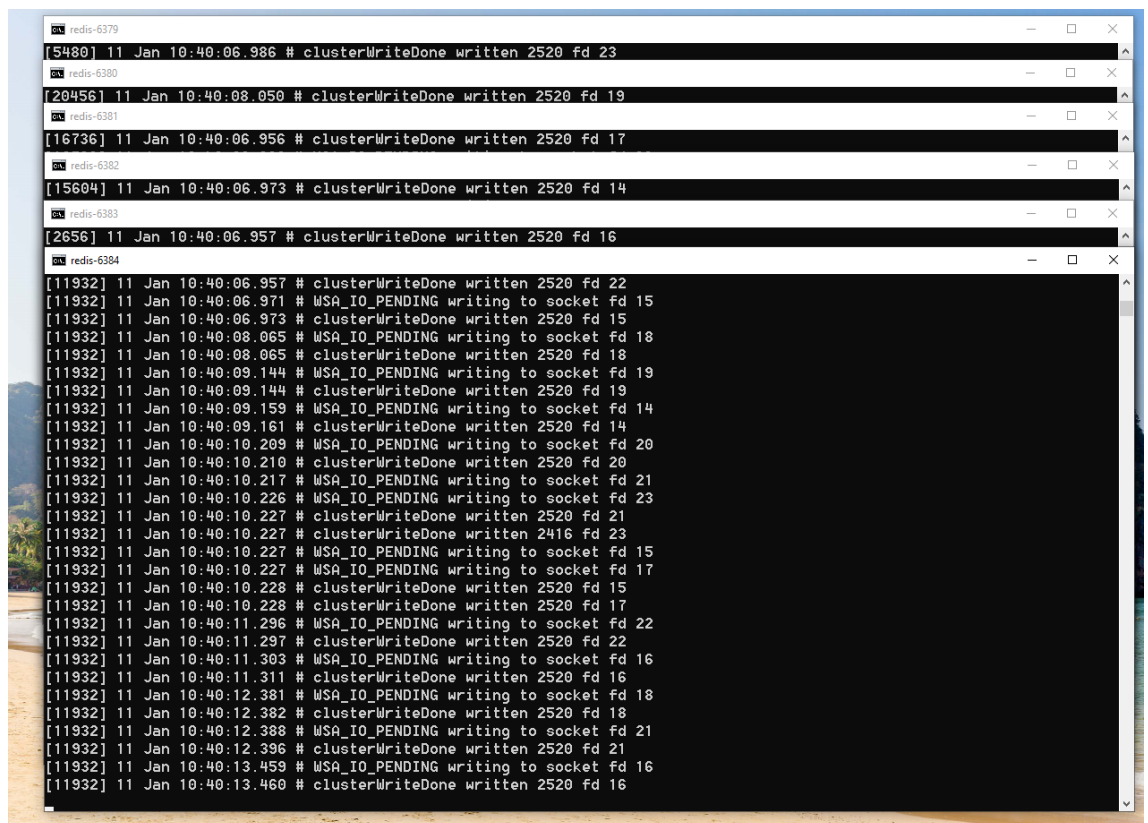
```
cd 6382/  
start start.bat  
cd ..
```

```
cd 6383/  
start start.bat  
cd ..
```

```
cd 6384/  
start start.bat
```



Ao executar o ***start\_cluster.bat*** será aberto 6 prompt de comando independentes a correr cada servidor redis sendo 3 master e 3 slave.



Para verificar se a conexão com o cluster corre bem executar o comando para aceder ao servidor:

- ***redis-cli.exe -p 127.0.0.1 -p 6379 -c***
- ***ping***

Mode	LastWriteTime	Length	Name
-a---	11/01/2022 10:38	5431	appendonly.aof
-a---	11/01/2022 10:39	516	dump.rdb
-a---	01/07/2016 16:54	1024	EventLog.dll
-a---	11/01/2022 10:38	733	nodes-6379.conf
-a---	01/07/2016 16:52	12618	Redis on Windows Release Notes.docx
-a---	01/07/2016 16:52	16769	Redis on Windows.docx
-a---	01/07/2016 16:55	406016	redis-benchmark.exe
-a---	01/07/2016 16:55	4370432	redis-benchmark.pdb
-a---	01/07/2016 16:55	257024	redis-check-aof.exe
-a---	01/07/2016 16:55	3518464	redis-check-aof.pdb
-a---	01/07/2016 16:55	268288	redis-check-dump.exe
-a---	01/07/2016 16:55	3485696	redis-check-dump.pdb
-a---	01/07/2016 16:55	482304	redis-cli.exe
-a---	01/07/2016 16:55	4517888	redis-cli.pdb
-a---	01/07/2016 16:55	1553408	redis-server.exe
-a---	01/07/2016 16:55	6909952	redis-server.pdb
-a---	25/05/2021 17:54	62254	redis-trib.rb
-a---	06/01/2022 10:37	3600	redis-trib.rb_old
-a---	01/07/2016 16:52	43929	redis.windows-service.conf
-a---	06/01/2022 10:26	43922	redis.windows.conf
-a---	06/01/2022 10:29	55	start.bat
-a---	01/07/2016 10:17	14265	Windows Service Documentation.docx

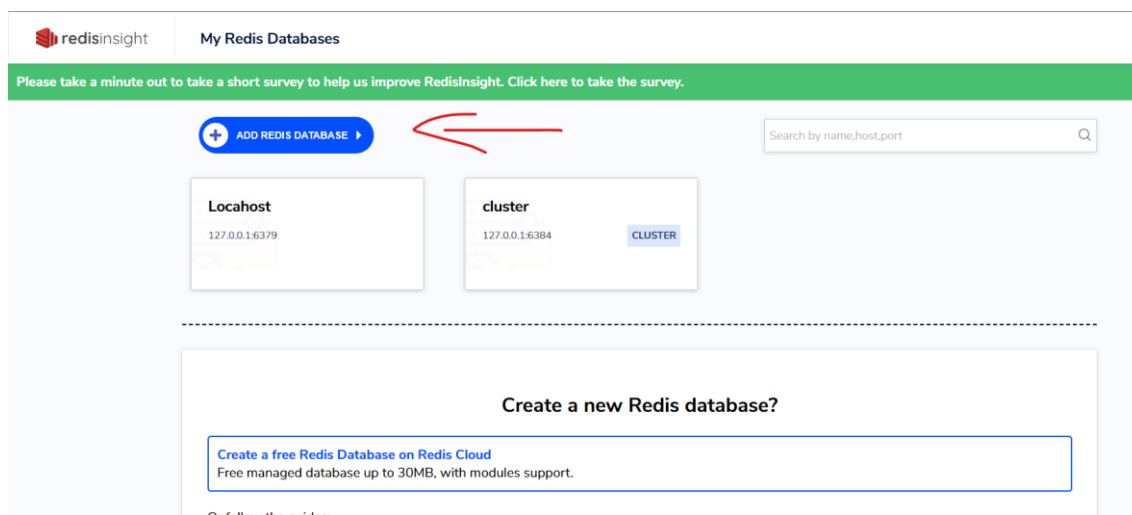
```

PS C:\desenvolvimento\redis\cluster\6379> .\redis-cli.exe -p 127.0.0.1 -p 6379 -c
127.0.0.1:6379> ping
PONG
127.0.0.1:6379> |

```

Se tiver a ferramenta **RedisInsight** instalado no computador poderás criar uma conexão local e verificar as configurações criadas e também keys, métricas, etc.

<https://redis.com/redis-enterprise/redis-insight/>





EDIT REDIS DATABASE

Host\*

127.0.0.1

Port\*

6384

Name\*

cluster

Username

default

Password

The password for your Redis database

☐ Use TLS

CANCEL

EDIT REDIS DATABASE

redisinsight

cluster

Cluster Management  
Cluster management for Redis cluster

BROWSE

Browser

CLI

Streams

RedisGraph

RedisGears β

RedisTimeSeries

RediSearch

ANALYSE

Memory Analysis

Profiler

Slowlog

BULK ACTIONS β

DATABASE

Configuration

Cluster Management

Client List

SETTINGS

TAKE A SURVEY

CLUSTER HEALTH

✓

Your cluster is running fine at the moment.

Actions:

Rebalance Cluster

Manual Resharding

Add Node

Assign Slot

Filters:

Number of Keys, Total Size

\*showing only 2 at a time

Showing:

Master Nodes

PRIMARY

M<sub>a</sub>

127.0.0.1:6379

0-5460

2 keys | 2 MB

Replicas

1. 127.0.0.1:6382

M<sub>b</sub>

127.0.0.1:6380

5461-10922

1 keys | 2 MB

Replicas

1. 127.0.0.1:6383

M<sub>c</sub>

127.0.0.1:6381

10923-16383

1 keys | 2 MB

Replicas

1. 127.0.0.1:6384