Alibaba Cloud ApsaraDB for Redis

Product Usage

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	Danger: Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	Warning: Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	Notice: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus , page names, and other UI elements.	Click OK.
`Courier font`	It is used for commands.	Run the `cd / d C :/ windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *[-all|-t]*

Style	Description	Example
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich {stand | slave}`

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1 Product features

1.1 What is the default data eviction policy of ApsaraDB for Redis?

ApsaraDB for Redis instances adopt the volatile-lru eviction policy by default. To change to another eviction policy, log on to the Redis console and click `System Parameters`.

- volatile-lru

  Only old data with an expiration time is evicted in accordance with the LRU algorithm.
- volatile-ttl

  Only data with an expiration time is evicted in an ascending order of TTL values.
- allkeys-lru

  Old data is evicted in accordance with the LRU algorithm.
- volatile-random

  Only old data with an expiration time is evicted randomly.
- allkeys-random

  Old data is evicted randomly.
- noeviction

  No data is evicted. An error message is returned when new data is written.

1.2 Description of redis-benchmark

Redis includes the redis-benchmark utility to test performance of the Redis service.

Options of redis-benchmark are described as follows:

```
Usage :  redis - benchmark  [- h ] [- p ] [- c ] [- n [- k ]
- h       Server   hostname  ( default   127 . 0 . 0 . 1 )
- p       Server   port  ( default   6379 )
- s       Server   socket  ( overrides   host   and   port )
- c       Number   of   parallel   connection  s  ( default   50 )
- n       Total   number   of   requests  ( default   10000 )
- d        Data   size   of   SET / GET   value   in   bytes  (
default   2 )
- k        1 = keep   alive   0 = reconnect  ( default   1 )
```

```
- r        Use   random   keys   for   SET / GET / INCR ,  random
values   for   SADD
  Using   this   option   the   benchmark   will   get / set   keys
  in   the   form   mykey_rand : 0000000124  56   instead   of
constant
  keys ,  the   argument   determines   the   max
  number   of   values   for   the   random   number .  For
instance
  if   set   to   10   only   rand : 0000000000  00  -  rand :
0000000000  09
  range   will   be   allowed .
- P         Pipelinere  quests .  Default   1  ( no   pipeline ).
- q         Quiet .  Just   show   query / sec   values
— csv       Output   in   CSV   format
- l         Loop .  Run   the   tests   forever
- t         Only   run   the   comma - separated   list   of   tests
.  The   test
  names   are   the   same   as   the   ones   produced   as   output
.
- I         Idle   mode .  Just   open   N   idle   connection  s
and   wait .
```

Some testing commands are listed as follows:

1. ```
   redis - benchmark  - h   192 . 168 . 1 . 201  - p   6379  - c   100
    - n   100000
   ```

   This command is used to test the performance of a Redis server. The Redis server runs on a local host and -h specifies the IP address of the host. This server provides the service port 6379. In this testing, the Redis server processes 100 concurrent connections and 100,000 requests.

2. ```
   redis - benchmark  - h   192 . 168 . 1 . 201  - p   6379  - q  - d
     100
   ```

   This command is used to test the performance of accessing 100-byte packets.

3. ```
   redis - benchmark  - t   set , lpush  - n   100000  - q
   ```

   This command is only used to test the performance of specified operations.

4. ```
   redis - benchmark  - n   100000  - q   script   load  " redis .
   call (‘ set ’,’ foo ’,’ bar ’)"
   ```

   This command is only used to test the performance of accessing some values.

In the actual testing, the system returns the following error: `writing to socket : connection timed out`.

```
[root@ ~]# redis-benchmark -h  -p 18000 -c 5000 -n 100000 -q
PING_INLINE: 66622.25 requests per second
PING_BULK: 50709.94 requests per second
SET: 52910.05 requests per second
GET: 58823.53 requests per second
INCR: 35161.74 requests per second
LPUSH: 60024.01 requests per second
LPOP: 54024.85 requests per second
SADD: 57240.98 requests per second
SPOP: 62305.30 requests per second
LPUSH (needed to benchmark LRANGE): 30854.68 requests per second
LRANGE_100 (first 100 elements): 52356.02 requests per second
LRANGE_300 (first 300 elements): 32905.56 requests per second
Writing to socket: Connection timed out63
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Writing to socket: Connection timed out
```

Run the `netstat -an` command to check whether the ApsaraDB for Redis instance has used too many ports. If so, restart the instance to release the connections, and perform the testing again.

```
root@iZ # redis-benchmark -h  -p 18000 -c 5000 -n 100000 -q
PING_INLINE: 38314.18 requests per second
PING_BULK: 37693.18 requests per second
SET: 37341.30 requests per second
GET: 37271.71 requests per second
INCR: 37439.16 requests per second
LPUSH: 36832.41 requests per second
LPOP: 37678.97 requests per second
SADD: 36284.47 requests per second
SPOP: 34293.55 requests per second
LPUSH (needed to benchmark LRANGE): 37622.27 requests per second
LRANGE_100 (first 100 elements): 33772.38 requests per second
LRANGE_300 (first 300 elements): 27397.26 requests per second
LRANGE_500 (first 450 elements): 23293.73 requests per second
LRANGE_600 (first 600 elements): 20391.52 requests per second
MSET (10 keys): 37565.74 requests per second
```

You can submit a ticket to *request technical support*.