ApsaraDB for Redis

Product Usage

Product Usage

Product features

Does ApsaraDB for Redis support distributed cluster?

ApsaraDB for Redis supports distributed cluster instances. Cluster instances provide a larger storage capacity and higher processing capability.

For more information, see Cluster instances.

Will the slave node of ApsaraDB for Redis be updated with its master node?

Updates on the master node are automatically replicated to the associated slave node. However, the Redis asynchronous replication mechanism may cause updates for the slave node to lag behind the master node. This may happen because the I/O write speed on the master node exceeds the synchronization speed on the slave node, or network latency exists between the master and slave nodes. As a result, the data replication from the master node to the slave node may experience latency or the data on the master and slave nodes may be inconsistent.

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**.

You can set the eviction policy to the following options:

VolatileLRU

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

VolatileTTL

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

AllKeysLRU

Old data is evicted in accordance with the LRU algorithm.

VolatileRandom

Only old data with an expiration time is evicted randomly.

AllKeysRandom

Old data is evicted randomly.

NoEviction

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

Which version of Redis is compatible with ApsaraDB for Redis?

ApsaraDB for Redis is compatible with Redis version 3.2. For more information about the supported commands, see Supported Redis commands.

Does ApsaraDB for Redis support one master node with multiple slave nodes?

Each ApsaraDB for Redis instance supports one master node and one slave node. Support for multiple slave nodes is unavailable.

Does ApsaraDB for Redis support data persistence?

ApsaraDB for Redis stores data in memory and hard disks with support for data persistence. The data persistence feature is implemented automatically by ApsaraDB for Redis and is transparent to users. Users cannot manually customize the mode and frequency of data persistence.

What is the relationship between ApsaraDB for Redis and Redis?

ApsaraDB for Redis is a key-value cloud storage service that is compatible with the Redis protocol and supports a majority of the Redis commands. Redis-compatible clients can connect to ApsaraDB for Redis for data storage and related operations.

Does ApsaraDB for Redis support both master and slave nodes backup?

Yes. ApsaraDB for Redis automatically manages the synchronization and failover between the master and slave nodes.

What is the expired keys deletion policy of ApsaraDB for Redis?

ApsaraDB for Redis provides two methods for expired key deletion.

Active expiration: The system periodically detects and deletes expired keys in the background.

Passive expiration: The system deletes expired keys upon key access by users.

Does ApsaraDB for Redis provide read-only slave node?

ApsaraDB for Redis adopts a master-slave structure, however, slave nodes are not read-only.

Does each ApsaraDB for Redis instance, including cluster instance, have one master and one slave node running simultaneously?

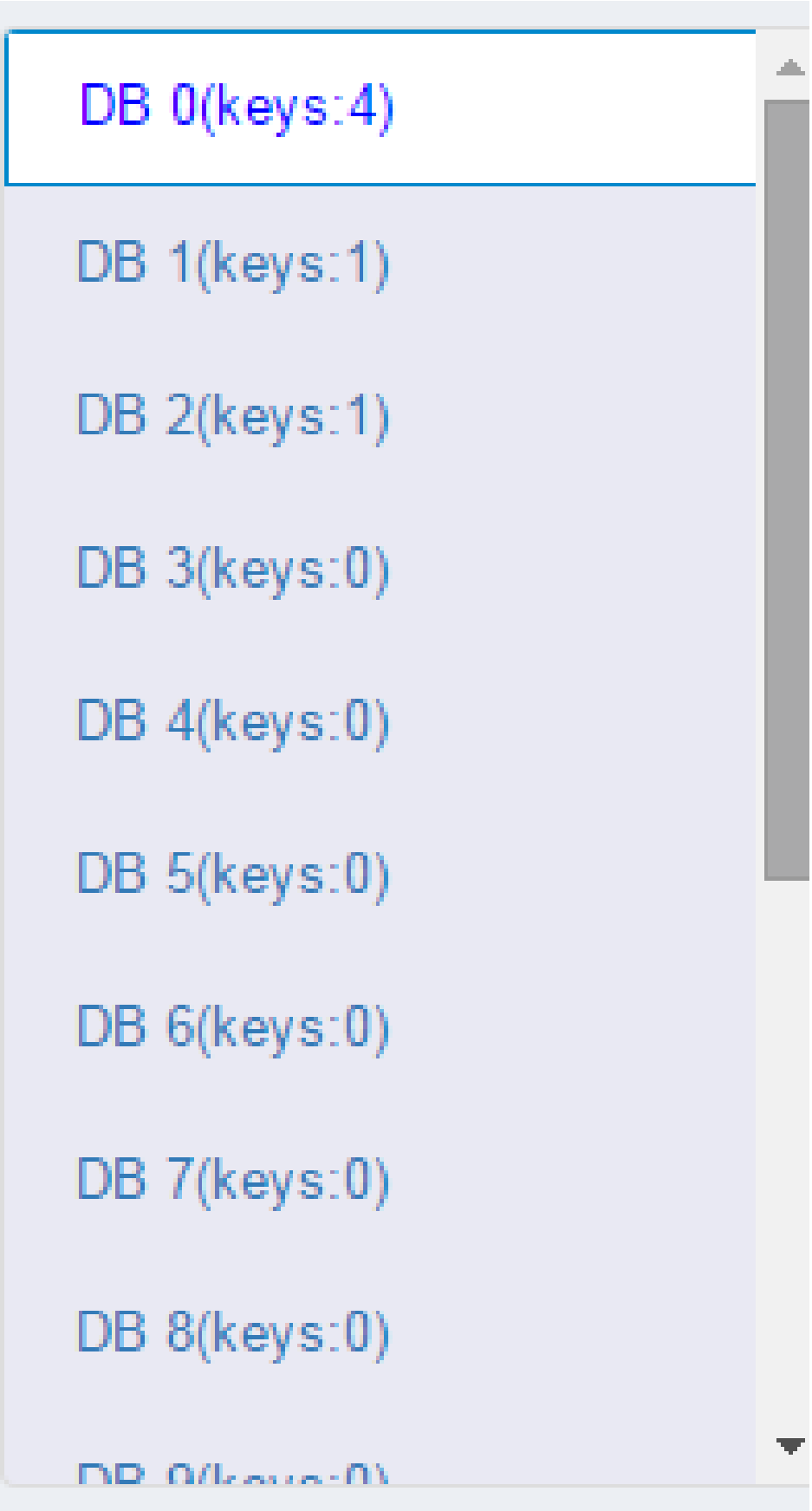
Each ApsaraDB for Redis instance has one master node and one slave node (that is, two instances) running at the backend (this also applies to cluster instances). For cluster instances, each node in a cluster adopts the “one master and one slave” structure.

What is the size of each DB for Redis

instance and how to select DB?

By default, each ApsaraDB for Redis instance has 256 databases numbered from 0 to 255.

There is no size limit for each database, however, the available database space is limited according to the overall space of the ApsaraDB for Redis instance.



To switch between different databases, run the select command.

For example, run the select 1 command to select database 1.

Introduction of Redis-benchmark usage

Redis includes the following parameters for the redis-benchmark utility used to test the Redis service performance.

Parameters

```
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 connections (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:000000012456 instead of constant

keys. The argument determines the maximum

number of values for the random number. For instance

if set to 10 only rand:000000000000 - rand:000000000009

range will be allowed.

-P Pipelinerequests. 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 those produced in the output.

-I Idle mode. Open N idle connections.

Test command examples

redis-benchmark -h 192.168.1.201 -p 6379 -c 100 -n 100000

The command is used to test the performance of the Redis server that uses the localhost, and Port 6379, in the event of 100 concurrent connections and 100,000 requests.

redis-benchmark -h 192.168.1.201 -p 6379 -q -d 100

The command is used to test the performance of access to 100-byte packets.

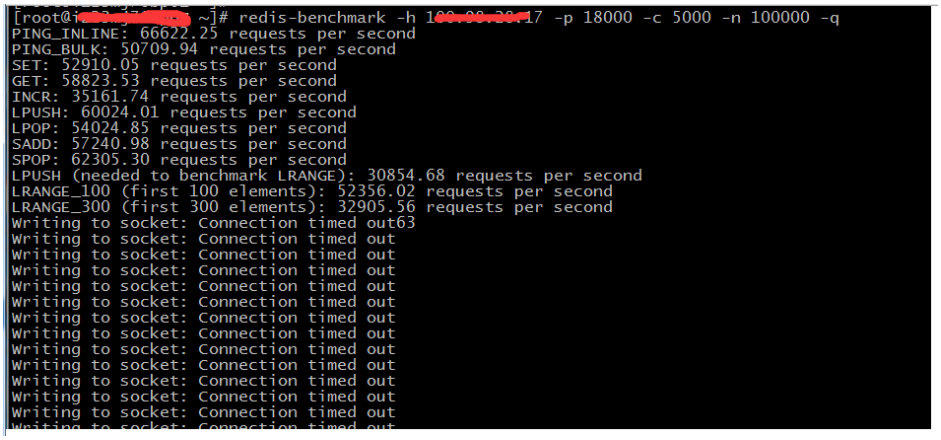
redis-benchmark -t set,lpush -n 100000 -q

The command is only used to test the performance of selected operations.

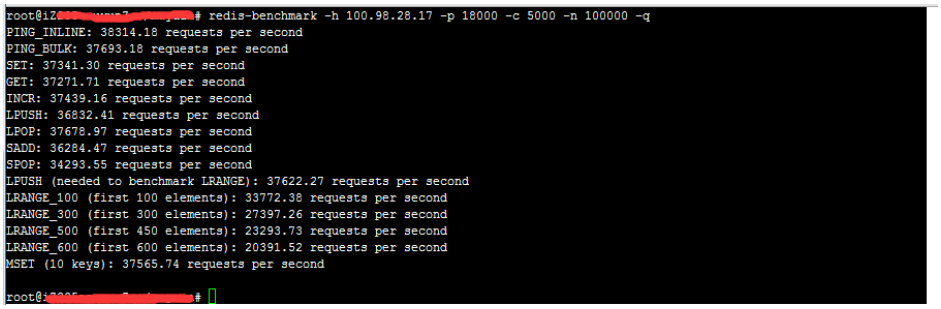
redis-benchmark -n 100000 -q script load "redis.call('set','foo','bar')"

The command is only used to test the performance of access to select numeric values.

The error "writing to socket: connection timed out" is returned during an actual test.



Enter netstat -an to check whether multiple ports exist. Restart the Redis instance to release connections. Then perform the test again.



What is the maximum number of DB that is supported by each instance?

Each instance supports 256 databases.

Developing and testing

How to connect Redis-cli to ApsaraDB for Redis?

The following command is used to connect redis-cli to ApsaraDB for Redis:

```
redis-cli -h instance connection address -a instance ID:password
```

> **Note**: ApsaraDB for Redis can only be connected from ECS in the same region. It cannot be connected from ECS in other regions or through public network. This is because ApsaraDB for Redis only supports access from the intranet.

Where can I download ApsaraDB for Redis clients?

Clients that are compatible with the Redis protocol can access ApsaraDB for Redis. Based on the characteristics of your application, you can select your expected Redis client.

For more information about Redis clients, see http://redis.io/clients.

Use redis-cli to import existing Redis data to ApsaraDB for Redis

For more information, see import data.

Do I need to install Redis on ECS in order to use ApsaraDB for Redis?

No. Redis clients can connect directly to ApsaraDB for Redis from ECS.

Does ApsaraDB for Redis support redis clients?

Yes. Clients that are compatible with the Redis protocol can access ApsaraDB for Redis. This means that, based on the characteristics of your application, you can select your desired Redis client. For details about Redis clients, refer to http://redis.io/clients.

How to conduct performance test for ApsaraDB for Redis?

You can run the redis-benchmark command to test the performance of ApsaraDB for Redis.

The following command is for your reference:

```
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 connections (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:000000012456 instead of constant
keys. The argument determines the max
number of values for the random number. For instance
if set to 10 only rand:000000000000 - rand:000000000009
range will be allowed.
-P Pipelinerequests. Default 1 (no pipeline).
-q Quiet. Show query/sec values: only displays the number of requests processed per second
-csv Output in CSV format
-l Loop. Run the tests continuously: permanent testing
-t Only run the list of tests that are separated by a comma. The test
names are the same as those produced as the output.
-I Idle mode. Only open N idle connections.
```

What Redis commands are supported by ApsaraDB for Redis?

ApsaraDB for Redis supports the majority of Redis features and commands. For more information about specific commands, see Supported Redis commands.

Do I need a password to connect to

ApsaraDB for Redis? Where to get the password?

ApsaraDB for Redis performs password authentication of connecting clients. You can set a password when creating an ApsaraDB for Redis instance, or log on to the Redis console and choose **Modify Password** > **Forgot Password** to reset your password.

Does ApsaraDB for Redis support public network access?

ApsaraDB for Redis only supports access from the Alibaba Cloud intranet. It does not support access from the Internet. Only applications on Alibaba Cloud ECS can be connected to ApsaraDB for Redis for data operation.

Where can I get the connection address and instance ID for ApsaraDB for Redis?

When you use a Redis client to connect with ApsaraDB for Redis, you need to enter the connection address (hostname), port number (6379), and instance ID. This information can be obtained on the **Instance Information** page of the Redis console.

ApsaraDB for Redis saves PHP session variable

Install phpredis extension.

```
wget https://github.com/nicolasff/phpredis/archive/master.zip

unzip master.zip

cd phpredis-master

/data/apps/php5.5.0/bin/phpize

**NOTE**: The phpize path must be replaced by the actual path in your environment.

./configure —with-php-config=/data/apps/php5.5.0/bin/php-config

**NOTE**: The php-config path must be replaced by the actual path in your environment.

make

make install
```

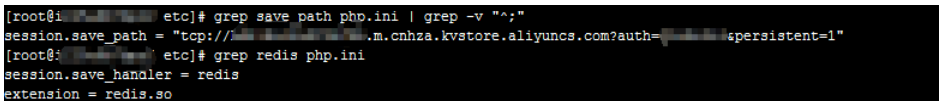
Modify the following php.ini parameters:

```
extension = redis.so

session.save_handler = redis

session.save_path =  “tcp://connection address of your ApsaraDB for Redis instance?auth=password of your ApsaraDB for Redis instance”
```

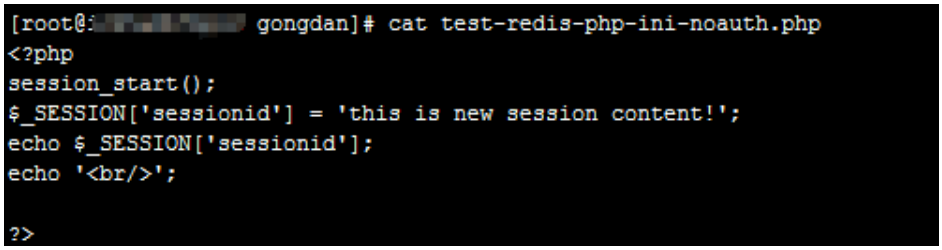
See the following figure:



Restart the Web service after setup.

Compile a PHP session generation page to verify whether the settings are saved to ApsaraDB for Redis.

The content of test.php is as follows:



Use php test.php to parse the PHP page to ensure the settings are saved to ApsaraDB for

Redis.

Console function

How to modify the default data eviction policy for ApsaraDB for Redis?

By default, ApsaraDB for Redis adopts the LRU data eviction policy. To change to another data eviction policy, perform the following steps:

Log on to the Redis console .

Go to **Instance List** page, click **Manage** to open the **Instance Information** page, and click **System Parameters**.

Click **Modify** to the right of **maxmemory-policy** to modify the eviction policy.

After modifying the eviction policy, click **OK**.

How to set the cache policy for ApsaraDB for Redis?

When the purchased cache space reaches capacity, the system clears expired data in accordance with your cache policy. You can log on to the Redis console and choose **Instance List** > **System Parameters** > **maxmemory-policy** to set a cache policy. The default cache policy is VolatileLRU, which is used to evict only old data with an expiration time in accordance with the LRU algorithm.

Can I restore the deleted data of ApsaraDB for Redis?

Data deleted from your ApsaraDB for Redis is not retained by Alibaba Cloud and cannot be recovered.

Does ApsaraDB for Redis subscribed instance support configuration change?

After you subscribe to an ApsaraDB for Redis instance, you can scale up the instance on the ApsaraDB for Redis console, but you cannot scale it down.

How to modify the password for the ApsaraDB for Redis instance?

If the password for your ApsaraDB for Redis instance is lost or forgotten, log on to the Redis console, go to the **Instance Information** page, and click **Modify Password** in the upper-right corner of the navigation pane to modify your password.

After modification, use the new password to log on to the Redis console. The password must be in the format of instance ID:password.

Restrictions of use

Are there any limits on the CPU processing

capability, data transmission bandwidth, and number of connections for each instance?

ApsaraDB for Redis imposes limits on the CPU processing capability, data transmission bandwidth (uplink and downlink), and number of connections supported by each instance. Performance parameters vary with different instance types.

For more information, see Instance Specification.

Can I modify configuration parameters for ApsaraDB for Redis?

You can modify configuration parameters for ApsaraDB for Redis through the console. For specific parameter information, log on to the Redis console.

Which Redis commands and operations are supported by ApsaraDB for Redis?

ApsaraDB for Redis is compatible with a majority of the open-source Redis commands and operations. However, if you are using an ApsaraDB for Redis cluster instance, some Redis commands and operations may not be supported. For more information about specific command availability, see Supported Redis commands.

Monitor and alarm

Why the storage usage amount of a newly created instance is larger than zero?

ApsaraDB for Redis is consistent with Redis in terms of product behavior. When a new instance is created, it generates dictionary-class system files of 1-2 MB, which occupy a fraction of the instance storage space. The occupied space is shown on the ApsaraDB for Redis console.

How to monitor ApsaraDB for Redis? Will there be automatic alarm when the storage is used up?

ApsaraDB for Redis does not provide the capacity alarm function. You can configure this function on CloudMonitor. CloudMonitor provides a range of metrics of ApsaraDB for Redis. You can configure the metrics based on your specific needs.

For more information on how to configure metris, see ApsaraDB for Redis monitoring.