

# Alibaba Cloud ApsaraDB for Redis

User Guide

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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.	 <b>Danger:</b> 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.	 <b>Warning:</b> 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.	 <b>Note:</b> 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.	 <b>Note:</b> You can use <b>Ctrl + A</b> to select all files.
>	Multi-level menu cascade.	<b>Settings &gt; Network &gt; Set network type</b>
<b>Bold</b>	It is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
Courier font	It is used for commands.	Run the <code>cd /d C:/windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[ ] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand   slave}</code>

# Contents

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<b>Legal disclaimer</b> .....	<b>I</b>
<b>Generic conventions</b> .....	<b>I</b>
<b>1 Log on to the console</b> .....	<b>1</b>
<b>2 Backup and recovery</b> .....	<b>2</b>
<b>3 Alarm settings</b> .....	<b>5</b>
<b>4 Performance monitoring</b> .....	<b>6</b>
<b>5 Application for payment and review</b> .....	<b>9</b>

# 1 Log on to the console

Click [here](#) to access the Redis console. The **Instance List** page is displayed, as shown in the following figure.

The screenshot displays the 'Instance List' page in the ApsaraDB for Redis console. The page features a navigation bar with various regions and a search bar. Below the navigation bar, there is a table listing the instances. The table has the following columns: Instance ID/Name, Status, Memory Quota and Amount Used, Zone, Instance Specification, Creation Time, Billing Method, Network Type, and Action. Two instances are listed, both in a 'Running' state. The first instance has ID r-1udee87ef9185ff4 and was created on 2017-05-10 10:04. The second instance has ID r-1udb1211af6a4dc4 and was created on 2017-05-04 14:02. The page also includes a search bar, a refresh button, and a 'Create Instance' button.

Instance ID/Name	Status	Memory Quota and Amount Used	Zone	Instance Specification	Creation Time	Billing Method	Network Type	Action
r-1udee87ef9185ff4	Running	32.93MB/1.00GB(3.22%)	cn-hangzhou-b	redis.master.small.default	2017-05-10 10:04	Pay-As-You-Go	Classic Network	Manage   Release   Upgrade
r-1udb1211af6a4dc4	Running	32.93MB/1.00GB(3.22%)	cn-hangzhou-b	redis.master.small.default	2017-05-04 14:02	Pay-As-You-Go	VPC Network vpc-bp1e16bga9w150028v137	Manage   Release   Upgrade

## 2 Backup and recovery

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As an increasing number of businesses use ApsaraDB for Redis as the ultimate persistent storage engine, users have posed higher data reliability requirements. The ApsaraDB for Redis backup and recovery solution enables comprehensive data reliability upgrade.

For more information about backup and recovery, watch the following video. The video lasts about 3 minutes.

<https://cloud.video.taobao.com/play/u/3050941791/p/1/e/6/t/1/56540476.mp4>

### Automatic backup (backup policy setting)

#### Background

As more and more applications use ApsaraDB for Redis for persistent storage, conventional backup mechanisms are required to quickly recover data in the event of misoperation. Alibaba Cloud runs RDB snapshot backup on slave nodes to protect the performance of your instance during the backup process. Alibaba Cloud also provides convenient console operations, so you can customize the backup settings.

#### Procedure

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Backup and Recovery** in the left-side navigation pane .
4. Click **Backup Settings**.
5. Click **Edit** to customize the automatic backup cycles and times.



#### Note:

By default, backup data is retained for 7 days. This setting cannot be modified.

6. Click **OK** to complete automatic backup setting.

### Manual backup (instant backup)

In addition to the general backup settings, you can initiate a manual backup request on the console at any time.

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Backup and Recovery** in the left-side navigation pane .

4. Click **Create Backup** in the upper-right corner.
5. Click OK to instantly back up the instance.

**Note:**

On the **Backup Data** page, you can select time ranges to query historical backup data. By default, backup data is retained for 7 days, so you can query historical backup data from the last 7 days.

## Backup archiving

### Background

Due to industry regulatory or corporate policy requirements, you may need to regularly archive Redis data backups. ApsaraDB for Redis provides a backup archiving function at no charge currently and saves automatic and manual backup files to OSS. Now, Alibaba Cloud stores your backup archives on OSS for 7 days at no charge. After 7 days, the files are automatically deleted.

If you must retain these archives for a longer period of time, you can copy the link on the console and manually download the database backup files for local storage.

### Procedure

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Backup and Recovery** in the left-side navigation pane .
4. On the backup data page, select the backup data to be archived and click **Download**.

## Data recovery

The data recovery function minimizes the damage caused by database misoperations. Now, ApsaraDB for Redis supports data recovery from backups.

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Backup and Recovery** in the left-side navigation pane .
4. Click the **Backup Data** tab on the **Backup and Recovery** page.
5. Select the time range for recovery and click **Search**. Then select the target backup file and click **Recover Data**.
6. In the Data Recovery window, click **OK** to recover the data directly to the original instance.  
Alternatively, you can choose **Clone Instance** to recover the backup data to a new instance.

After verifying that the recovered data is correct, you can recover the data to the original instance.

**Note:**

As the data recovery operation is highly risky, we suggest using the clone instance method if time permits. This method creates a Pay-As-You-Go instance based on the backup data set to be recovered. After verifying that the data is correct, you can recover the data to the original instance.

## Clone instance

### Background

During routine maintenance projects, O&M engineers often need to quickly deploy a new application. When application deployment is relatively simple, a new instance can be conveniently created based on an ECS image file. At the database level, however, deployment is more complex. O&M engineers must purchase or install a new database and then initialize relevant database scripts (to create tables, triggers, and views). In such a scenario, many trivial operations must be performed and the error rate is relatively high. Especially in the gaming industry with fast service activation, the rapid deployment of new applications often needs to be repeated many times each day.

To address this pain point, ApsaraDB for Redis develops the clone instance function, enabling you to clone a new subscribed instance or Pay-As-You-Go instance from backup files quickly. Then you can perform complex operations of database development and deployment with a single click on a graphic interface, significantly improving productivity.

### Procedure

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Backup and Recovery** in the left-side navigation pane.
4. On the **Backup Data** page, select the expected backup data set and click **Clone Instance**.

## 3 Alarm settings

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### Background information

ApsaraDB for Redis provides an instance monitoring function and sends an SMS message to you when detecting an instance exception.

Monitoring and alarming are implemented through CloudMonitor. CloudMonitor enables you to set metrics and notify all contacts in the alarm contact group when the alarm policies of the metrics are triggered. You can maintain an alarm contact group corresponding to an alarm metric so that relevant contacts are promptly notified when an alarm occurs.

### Procedure

1. Log on to the [Redis console](#) and find the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Alarm Settings** in the left-side navigation pane.
4. Click **Alarm Settings** to go to the CloudMonitor console. You can click **Refresh** to manually refresh the current status of the monitoring metrics.
5. Select **Alarm Rules > Create Alarm Rule**.
6. Add alarm rules on the **Batch Alarm Rule Settings** page.
7. Click **Next** to set the notification object. You can click **Quickly Create a Contact Group** to create an alarm contact or alarm contact group.
8. Click **Confirm** and then click **Close**.



#### Note:

After the alarm setting is completed, you can modify, disable, and delete alarm rules on the **Alarm Rules** page of the CloudMonitor console. You can also view the alarm history on this page.

## 4 Performance monitoring

### Background information

ApsaraDB for Redis provides 10 monitoring groups. You can customize metrics on the ApsaraDB for Redis console based on business requirements, or enable real-time monitoring for ApsaraDB for Redis instances using DMS for Redis.

### Metric descriptions

Monitoring group	Data metric	Description
Basic monitoring group	The basic instance monitoring information	Includes QPS, bandwidth, and memory usage.
Keys monitoring group	Monitoring statistics on the use of key value-related commands	Number of times that commands used to delete keys , determine whether a key exists, and perform other such operations are called.
String monitoring group	Monitoring statistics on the use of string data-related commands	Number of times that string data commands, such as append and mget, are called.
Hashes monitoring group	Monitoring statistics on the use of hash data-related commands	Number of times that hash data commands, such as hget and hdel, are called.
Lists monitoring group	Number of times that list data commands, such as blpop and brpop, are called.	Number of times that List data commands, such as blpop and brpop, were called
Sets monitoring group	Monitoring statistics on the use of set data-related commands	Number of times that set data commands, such as sadd and scard, are called.
Zsets monitoring group	Monitoring statistics on the use of zset data-related commands	Number of times that zset data commands, such as zadd and zcard, are called.
HyperLog monitoring group	Monitoring statistics on the use of HyperLogLog data-related commands	Number of times that HyperLogLog data commands , such as pfadd and pfcount, are called.

Monitoring group	Data metric	Description
Pub/Sub monitoring group	Monitoring statistics by using commands related to pub/sub functions	Number of times that pub/sub function commands, such as publish and subscribe, are called.
Transaction monitoring group	Monitoring statistics on the use of transaction-related commands	Number of times that transaction-related commands , such as watch, multi, and exec, are called.

### Start real-time monitoring

1. Log on to the [Redis console](#) and locate the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Click **Log on to Database** in the upper right corner.
4. On the data console logon page, enter the ID and password of the ApsaraDB for Redis instance to go to the homepage of DMS for Redis.
5. On the **Performance Monitoring** page, click **Real-time Monitor**.

### Custom metrics

1. Log on to the [Redis console](#) and locate the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Performance Monitoring** in the left-side navigation pane.
4. Click **Custom Metrics**, select the expected monitoring group, and click **OK**.

### View historical monitoring data

1. Log on to the [Redis console](#) and locate the target instance.
2. Click the instance ID or **Manage** to go to the **Instance Information** page.
3. Select **Performance Monitoring** in the left-side navigation pane.
4. On the **Performance Monitoring** page, query the historical monitoring data of the instance.



#### Note:

- You can select a time range to query historical monitoring data.
- Cluster instances support viewing of the historical monitoring data of each data node. You can click a data node in **Instance Architecture Diagram** on the **Instance Information**

page or select **Data Node** on the **Performance Monitoring** page of a cluster instance to query the historical monitoring data of the data node.

## 5 Application for payment and review

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### Background

To guarantee service availability, ApsaraDB for Redis provides the SLA indicators for your instance from the last two months. Indicators with a value greater than or equal to 99.95% are normal (highlighted in green). If there are indicators with a value smaller than 99.95% (highlighted in red), you can apply for compensation on the console.

Please refer to the calculation methods and compensation standards for availability of services.

### Compensation request time limit

You can apply for the compensation after the fifth working day of every month for the instance that fails to meet the availability standards during the previous month. The application period is limited for up to two months following the month when your ApsaraDB for Redis instance fell short of the availability standard. Application beyond this period isn't accepted.

### Procedure

1. Log on to the [Redis console](#).
2. Check the target instance and click Apply for compensation.
3. On the **SLA Compensation Management** page, submit your application and click Confirm **Compensation Application**.



#### Note:

- After submitting your application, you can view the application records on the **Applied compensation** page.
- If you have any doubt about the compensation amount, click Appeal on the **SLA Compensation Management** page, or click **Apply for Review** on the Instance List page to open a ticket to apply for compensation.