ApsaraDB for Redis

Developer Guide

Developer Guide

This developer guide applies to the further development of both ApsaraDB for Redis and ApsaraDB for Memcache.

API reference

Instance lifecycle management APIs

API	Description
CreateInstance	Creates an instance.
DeleteInstance	Releases an instance.
ModifyInstanceSpec	Modifies an instance.
RenewInstance	Renews an instance.
RenewMultiInstance	Renews instances in batches.
TransformToPrePaid	Changes the payment option.

Instance management APIs

API	Description
ModifyInstanceAttribute	Modifies attributes of an instance.
FlushInstance	Clears data of an instance.
DescribeInstances	Queries basic information about an instance.
DescribeInstanceAttribute	Queries details of an instance.
ModifyInstanceMaintainTime	Modifies the maintenance time of an instance.
ModifySecurityIps	Modifies the whitelist of an instance.
DescribeRegions	Queries the region where an instance can be sold.
SwitchNetwork	Modifies the network type.

ModifyInstanceNetExpireTime	Modifies the retention period of a classic network connection address.

Backup recovery APIs

API	Description
CreateBackup	Creates a backup.
ModifyBackupPolicy	Modifies a backup policy.
DescribeBackupPolicy	Queries a backup policy.
DescribeBackups	Displays a backup list.
RestoreInstance	Rolls an instance back based on a backup set.

Monitoring management APIs

API	Description
DescribeMonitorItems	Views a metric list.
DescribeHistoryMonitorValues	Views the historical monitoring data.

Parameter management APIs

API	Description
DescribeInstanceConfig	Views the parameter configuration of an instance.
ModifyInstanceConfig	Modifies the parameter configuration of an instance.

Service address

The service access address of ApsaraDB for Redis APIs is r-kvstore.aliyuncs.com.

Communication protocol

Request communication over HTTP or HTTPS is supported. It is recommended that requests be sent over HTTPS for enhanced security.

Request method

The system supports sending of HTTP GET requests. In this mode, the request parameters must be included in the request URL.

Request parameters

You must specify the operation to be executed, namely the Action parameter (for example, CreateInstance), for each request, as well as the public request parameters required for each operation and specific request parameters of the specified operation.

Character encoding

Requests and responses are encoded using the UTF-8 character set.

Public request parameters are the request parameters used in each API.

Public request parameters

Name	Type	Required or not	Description
Format	String	Yes	Type of the return value. JSON and XML are supported. The default value is XML.
Version	String	Yes	API version, in the format of YYYY-MM-DD. The current version is 2015-01-01.
AccessKeyId	String	Yes	ID of the key Alibaba Cloud issued to a user to access services
Signature	String	Yes	Signature result string. For details about how to calculate a signature, see Signature mechanism.
SignatureMethod	String	Yes	Signature mode. HMAC-SHA1 is supported currently.

Timestamp	String	Yes	Request timestamp. The date format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ. For example, 2016-01-01T12:00:00Z (indicating 20:00:00, January 1, 2016, Beijing time).
SignatureVersion	String	Yes	Signature algorithm version. The current version is 1.0.
SignatureNonce	String	Yes	Unique random number, used to defend against network replay attacks. You must use different random numbers in different request periods.

Example

```
https:// r-kvstore.aliyuncs.com/
?Format=json
&Version=2015-01-01
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D
&SignatureMethod=HMAC-SHA1
&SignatureNonce=15215528852396
&SignatureVersion=1.0
&AccessKeyId=key-test
&Timestamp=2016-01-01T12:00:00Z
```

Public return parameters

Each time you send a call request to an API, the system returns a unique identification code (RequestId), no matter the request is successful or not.

Example

```
<?xml version="1.0" encoding="utf-8"?>
<!—Result root node-->
<API name+Response>
<!—Return request tag-->
```

```
<RequestId>4C4fdsf38-3910-447D-87AD-AC078932216</RequestId>
<!—Return result data-->
</API name+Response>
```

After APIs are called, data is returned in the unified format. A returned HTTP status code of 2xx indicates that the call is successful. A returned HTTP status code of 4xx or 5xx indicates that the call fails. For successful calls, the primary formats of returned data are XML and JSON. When a request is sent, an external system can input parameters to specify the format of returned data. XML is the default format.

In this document, examples of results returned are formatted in a way that is easier for you to read. The actual results returned are not formatted with line breaks, indentation, or other layouts.

Successful results

XML return results include a message stating if the request is successful and the specific service data. An example is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<!—Result root node-->
<API name+Response>
<!—Return request tag-->
<RequestId>4C4fdsf38-3910-447D-87AD-AC078932216</RequestId>
<!—Return result data-->
</API name+Response>
```

JSON example:

```
{
"RequestId": "4C4fdsf38-3910-447D-87AD-AC078932216",
/* Return result data*/
}
```

Error results

If an error is reported in an API call, no result data is returned. The caller can refer to the error code table in the appendix to locate the error cause. When an error occurs in a call, the HTTP request returns an HTTP status code of 4xx or 5xx. The returned message body contains the specific error code and error message. The message body also contains a globally unique RequestId and the HostId of the site you accessed with this request. If unable to locate the error cause, the caller can contact Alibaba Cloud customer service and provide the HostId and RequestId to help solve the problem as quickly as possible.

```
<?xml version="1.0" encoding="UTF-8"?>
<Error>
<RequestId>8906582E-6722-409A-A6C4-0E7863B733A5</RequestId>
<HostId> r-kvstore.aliyuncs.com</HostId>
<Code>UnsupportedOperation</Code>
<Message>The specified action is not supported.</Message>
</Error>
```

JSON example:

```
{
"RequestId": "7463B73D-35CC-4D19-A010-6B8D65D242EF",
"HostId": " r-kvstore.aliyuncs.com",
"Code": "UnsupportedOperation",
"Message": "The specified action is not supported."
}
```

ApsaraDB for Redis performs authentication on the sender of each access request. Therefore, no matter HTTP or HTTPS is used to submit a request, the request must contain the signature information. ApsaraDB for Redis performs symmetric encryption using the Access Key ID and Access Key Secret to verify the identity of request senders.

The Access Key ID and Access Key Secret are officially issued to visitors by Alibaba Cloud (visitors can apply for and manage them on the Alibaba Cloud official website). The Access Key ID indicates the identity of the visitor. The Access Key Secret is the secret key to encrypt the signature string and verify the signature string on the server. It must be kept strictly confidential and only available to Alibaba Cloud and the authenticated visitor.

Sign an access request

Use the following method to sign an access request:

Use request parameters to construct a canonicalized query string.

Sort all request parameters alphabetically by parameter names. (The request parameters include the “public request parameters” and the custom parameters for the given request APIs described in this document, but do not include the Signature parameter mentioned in the “public request parameters”.)

Note: When a request is submitted using the GET method, these parameters constitute the parameter section of the request URI (that is, the section in the URI following “?” and connected by “&”).

Encode the name and value of each request parameter.

Perform URL encoding on the names and values using the UTF-8 character set. The URL encoding rules are as follows:

Do not encode uppercase letters A-Z, lowercase letters a-z, numbers 0-9, and characters including the hyphen (-), underscore (_), period (.), and tilde (~).

Encode other characters in the format of %XY, with XY representing the ASCII code in hexadecimal notation of the characters. For example, encode the English double quotes (") as %22.

Encode extended UTF-8 characters in the format of %XY%ZA....

Encode the space ( ) as %20 rather than the plus sign (+).

Note: Generally, libraries supporting the URL encoding (for example, java.net.URLEncoder in Java) are all encoded according to the rules for application/x-www-form-urlencoded of the MIME type. If this encoding method is used, replace the plus sign (+) in the encoded strings with %20, the asterisk (*) with %2A, and change %7E back to the tilde (~) to generate the encoding strings specified by the preceding rules.

Connect the encoded parameter names and values with the equal sign (=).

Then, sort the parameter name and value pairs connected by equal signs in alphabetical order, and connect them with & to produce the canonicalized query string.

Use the canonicalized query string obtained in the preceding step to construct the string for signature calculation according to the following rules:

```
 StringToSign=
HTTPMethod + "&" +
percentEncode( "/" ) + " &" +
percentEncode(CanonicalizedQueryString)
```

Where,

HTTPMethod indicates the HTTP method used to submit a request, for example,

GET.

percentEncode("/") indicates the encoded value for the character "/ " according to the URL encoding rules described in Step 1.ii, namely %2F.

percentEncode(CanonicalizedQueryString) indicates the encoded string of the canonicalized query string constructed in Step 1, produced by following the URL encoding rules described in Step 1.ii.

Based on the RFC2104 definition, use the preceding string used for the signature to calculate the signature HMAC value.

> **Note**: When the signature is calculated, the key is the Access Key Secret you hold adding the & character (ASCII:38), and the SHA1 hashing algorithm is used.

According to the Base64 encoding rules, encode the preceding HMAC value into a string to obtain the signature value.

Add the obtained signature value to the request parameters as the Signature parameter. The request signing process is complete.

> **Note**: When the obtained signature value is submitted to the ApsaraDB for Redis server as the final request parameter value, the URL encoding must be performed for the value in compliance with the RFC3986 rules, which is the same as that for other parameter values.

Example

If DescribeDBInstances is used as an example, the request URL before signing is:

```
http://r-kvstore.aliyuncs.com/?TimeStamp=2013-06-
01T10:33:56Z&Format=XML&AccessKeyId=testid&Action=DescribeInstances&SignatureMethod=HMAC-
SHA1&RegionId=region1&SignatureNonce=NwDAxvLU6tFE0DVb&Version=2015-01-01&SignatureVersion=1.0
```

The calculated string to be signed StringToSign is as follows:

```
GET&%2F&AccessKeyId%3Dtestid&Action%3DDescribeInstances&Format%3DXML&RegionId%3Dregion1&Signatu
reMethod%3DHMAC-
SHA1&SignatureNonce%3DNwDAxvLU6tFE0DVb&SignatureVersion%3D1.0&TimeStamp%3D2013-06-
01T10%253A33%253A56Z&Version%3D2015-01-01
```

It is assumed that the Access Key ID is testid, the Access Key Secret is testsecret, and the Key used for HMAC calculation is testsecret&. The calculated signature value is BIPOMlu8LXBeZtLQkJTw6iFvw1E=.

The signed request URL is (the Signature parameter added):

```
http://r-kvstore.aliyuncs.com/?TimeStamp=2013-06-
01T10%3A33%3A56Z&Format=XML&AccessKeyId=testid&Action=DescribeInstances&SignatureMethod=HMAC-
SHA1&RegionId=region1&SignatureNonce=NwDAxvLU6tFE0DVb&SignatureVersion=1.0&Version=2015-01-
01&Signature=BIPOMlu8LXBeZtLQkJTw6iFvw1E%3D
```

How to use RAM authorization

Instances created using a cloud account are all resources of this account. An account has the full operation permissions on its resources by default.

Alibaba Cloud Resource Access Management (RAM) allows you to grant the access and management permissions of resources under a cloud account to sub-users in RAM.

If you do not need RAM, skip this section.

Only one type of ApsaraDB for Redis resources can be authorized in RAM: Instance.

The following table lists the resource description method when the resources are authorized using RAM.

Resource type	Resource description method in the authorization policy
Instance	acs:kvstore:$regionid:$accountid:instance/$instanceid acs:kvstore:$regionid:$accountid:instance/ acs:kvstore:::instance/

All $regionids must be the ID of a region or *. All $instanceids must be the ID of an instance or *. Similarly, $account-id is the numerical ID of your cloud account, which can be replaced by *.

Actions in RAM that can authorize resources are listed as follows:

CreateInstance

DeleteInstance

ModifyInstanceSpec

RenewInstance

RenewMultiInstance

TransformToPrePaid

ModifyInstanceAttribute

FlushInstance

DescribeInstances

DescribeInstanceAttribute

ModifyInstanceMaintainTime

ModifySecurityIps

SwitchNetwork

ModifyInstanceNetExpireTime

CreateBackup

ModifyBackupPolicy

DescribeBackupPolicy

DescribeBackups

RestoreInstance

DescribeHistoryMonitorValues

DescribeInstanceConfig

ModifyInstanceConfig

When a sub-user accesses resources over the APIs, the background checks the caller’ s permissions on RAM to ensure that the caller has the response permissions.

Each API determines the resources for permission check according to the involved resources and the semantics of the API. The following table lists the authentication rules for each API.

Action	Authentication rule
CreateDBInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DeleteInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceSpec	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
RenewInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
RenewMultiInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
TransformToPrePaid	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceAttribute	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
FlushInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DescribeInstances	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DescribeInstanceAttribute	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceMaintainTime	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifySecurityIps	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
SwitchNetwork	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceNetExpireTime	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
CreateBackup	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyBackupPolicy	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DescribeBackupPolicy	acs:kvstore:\$regionid:\$accountid:instance/\$

	instanceid
DescribeBackups	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
RestoreInstance	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DescribeHistoryMonitorValues	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
DescribeInstanceConfig	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceConfig	acs:kvstore:\$regionid:\$accountid:instance/\$instanceid

Life cycle management

Description

This API is used to create an instance. For more information about the instance types, see the instance type table in the appendix.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Operation API name. Value: CreateInstance.
InstanceName	String	No	Instance name. The name is a string of 2 to 128 characters and must start with a letter (uppercase or lowercase) or a Chinese character. Special characters, such as the at sign (@), slash (/), colon

			(:), equal sign (=), quotation mark (“), angle brackets (< >), braces ({}), and square brackets ([]) and space, are not supported.
Password	String	No	Instance password. The password is a string of 8 to 30 characters and must contain uppercase letters, lowercase letters, and numbers. **Note**: These special characters are not supported now: Exclamation mark (!), angle brackets (< >), parentheses (()), square brackets ([]), braces ({}), comma (,), backquote (`), tilde (~), period (.), hyphen (-), underscore (_), at sign (@), number sign (#), dollar sign ($), percent sign (%), caret (^), ampersand (&), and asterisk (*).
InstanceClass	String	Yes	Type of the applied ApsaraDB for Redis instance. For more information, see the instance type table.
RegionId	String	Yes	Region of the applied ApsaraDB for Redis instance. You can use the DescribeRegions function to view available data centers.
ZoneId	String	No	Lower-level zone of the RegionId. You can use the DescribeRegions

			function to view available zones.
ChargeType	String	No	Billing method. Supported values: PrePaid and PostPaid. Default value: PostPaid.
Period	Long	No	Payment cycle. Required if ChargeType is set to PrePaid. Unit: month. Supported values: 1-9, 12, 24, and 36.
Token	String	No	This parameter is used to guarantee the idempotence of the request. The value is generated by a client, which must be unique among all requests. The value is case-sensitive and contains a maximum of 64 ASCII characters. For more information, see the section “How to guarantee idempotence”.
NetworkType	String	No	Network type: - CLASSIC - VPC The default value is CLASSIC.
VpcId	String	No	VPC ID
VSwitchId	String	No	VSwitch ID
PrivateIp	String	No	Private IP address
SrcDBInstanceId	String	No	If an instance created based on a backup set generated by another instance is valid, this parameter indicates the ID of the instance that generates the backup set.

BackupId	String	No	If an instance created based on a backup set generated by another instance is valid, this parameter indicates the ID of the generated backup set. Query the value of BackupId by calling DescribeBackups.
InstanceType	String	No	Instance type. Supported values: Redis and Memcache. Default value: Redis.

Response parameters

Name	Parameter type	Description
Public return parameters	-	For more information, see Public return parameters.
InstanceId	String	Instance ID (globally unique).
InstanceName	String	Instance name

Note: In consideration of the historical compatibility, some returned fields (such as Config and Region) of the function are not mentioned in this document. Alibaba Cloud will delete these fields gradually in the future. In this case, do not rely on the returned fields not involved in this document when calling the APIs.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action=CreateInstance
&RegionId=cn-hangzhou
&Password=Qa123456
&InstanceClass= redis.master.small.default`
```

Response example

```
{
"InstanceId":"736538d0a6894665",
"InstanceName":"736538d0a6894665"
}
```

Description

This API is used to change the instance type. For details about the instance types, see the instance type table in the appendix.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Operation API name. Value: ModifyInstanceSpec.
InstanceId	String	Yes	Instance ID (globally unique)
InstanceClass	String	Yes	Type of the applied ApsaraDB for Redis instance. For details, see the instance type table.

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.
OrderId	String	Order ID

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action=ModifyInstanceCapacity
&InstanceId=736538d0a6894665
&InstanceClass= redis.master.mid.default
```

Response example

```
{
"OrderId" : "201294900260011"
"RequestId" : "283746AF-82B3-4BFF-88CC-BF34CDE2732"
}
```

Description

This API is used to renew a subscription instance.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Operation API name. Value: RenewInstance.
InstanceId	String	Yes	Instance ID (globally unique)
InstanceClass	String	No	Target type for configuration change. The type configuration can be changed when the instance is renewed. If the target type is different from the current type, the configuration is changed at the original expiration time.

Period	Long	Yes	Prepayment renewal period. Unit: month. Supported values: 1–9, 12, 24, and 36.

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.
OrderId	String	Order ID
EndTime	String	Expiration time of the instance after renewal

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= RenewInstance
&InstanceId=736538d0a6894665
&InstanceClass= redis.master.mid.default
```

Response example

```
{
"OrderId" : "201294800290011"
"EndTime" : "2018-03-19T00:00:00Z"
"RequestId" : "4B75DB12-3FFF-4FF4-B985-E78CDCADB959"
}
```

Description

This API is used to renew Subscription instances in batches.

Request parameters

Name	Type	Required or not	Description

Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Operation API name. Value: RenewMultiInstance.
InstanceIds	String	Yes	Instance ID. Multiple instance IDs are separated by comma (,).
Period	Long	Yes	Prepayment renewal period. Unit: month. Supported values: 1–9, 12, 24, and 36.

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= RenewMultiInstance
&InstanceIds=736538d0a6894665, de5d88e34d004241
&Period=1
```

Response example

```
{
"RequestId" : ""698D75F4-87B2-41DD-BDEB-B2D45E94254F"
}
```

Description

This API is used to transform the payment option of an instance from Pay-As-You-Go to Subscription (prepayment).

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Operation API name. Value: TransformToPrePaid.
InstanceId	String	Yes	Instance ID
Period	Long	Yes	Prepayment renewal period. Unit: month. Supported values: 1–9, 12, 24, and 36.

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.
OrderId	String	Order ID
EndTime	String	Expiration time of the transformed Subscription instance.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= TransformToPrePaid
&InstanceId=736538d0a6894665
&Period=1
```

Response example

```
{
"OrderId" : "201294900350011"
"EndTime" : "2017-11-19T00:00:00Z"
"RequestId" : "9F64CDE7-6B91-4C13-9252-F221AFCFF66B"
}
```

Instance management

Description

This API is used to query details of an instance.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeInstanceAttribute.
InstanceId	String	Yes	Instance ID (globally unique)

Response parameters

Name	Type	Description
Instances	List	Array composed of DBInstanceAttributes

DBInstanceAttribute parameter structure

Name	Type	Description
InstanceId	String	Instance ID (globally unique)
InstanceName	String	Instance name

Capacity	Long	Capacity of the applied ApsaraDB for Redis instance. Unit: MB.
InstanceClass	String	Instance type
Bandwidth	Long	Instance bandwidth limit. Unit: Mbit/s.
Connections	Long	Instance connection quantity limit. Unit: count.
ConnectionDomain	String	Connection domain of the ApsaraDB for Redis instance (only Intranet access supported)
Port	Int	ApsaraDB for Redis connection port
RegionId	String	Region of the applied ApsaraDB for Redis instance. For more information, see DescribeRegions.
ZoneId	String	Lower-level zone ID of the RegionId. For more information, see DescribeRegions.
InstanceStatus	String	Instance status: - Normal - Creating - Changing - Inactive
ChargeType	String	Billing method. Supported values: PrePaid and PostPaid.
CreateTime	String	Instance creation time. The time format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ.
EndTime	String	Expiration time for a pre-paid instance. The time format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ.
NetworkType	String	Network type. Supported values: CLASSIC and VPC.
VpcId	String	VPC ID

VSwitchId	String	VSwitch ID
PrivateIpAddress	String	Private IP address
MaintainStartTime	String	Maintenance start time
MaintainEndTime	String	Maintenance end time
SecurityIPList	String	IP address whitelist
AvailabilityValue	String	Availability metrics of the current month

Note: In consideration of the historical compatibility, some returned fields (such as Config and Region) of the function are not mentioned in this document. Alibaba Cloud will delete these fields gradually in the future. In this case, do not rely on the returned fields not involved in this document when calling the APIs.

Example

Request example

```
https://r-kvstore.aliyuncs.com、
?<Public request parameters>
&Action=DescribeInstanceAttribute
&InstanceId=736538d0a6894665
```

Response example

```
{
{
"Instances" : {
" DBInstanceAttribute " : [{
"Bandwidth" : 128,
"Capacity" : 512,
"ConnectionDomain" : "de5d88e34d004211.m.cnhzalicm10pub001.r-kvstore.aliyuncs.com.com",
"Connections" : 300,
"ZoneId" : "cn-qingdao-b",
"InstanceId" : "de5d88e34d004211",
"InstanceName" : "wl123456",
"InstanceStatus" : "Available",
"InstanceClass" : "redis.master.mid.default",
"Port" : 11211,
"QPS" : 4500,
"RegionId" : "cn-qingdao",
 “ChargType “ : ” PostPaid “,
 “NetworkType” :” ClASSSIC”
 “MaintainStartTime “ : ” 02 : 00Z “ ,
```

```
  “MaintainEndTime  “ : ”  06 : 00Z  “ ,
  “SecurityIPList”  :  “192.168.0.1”  ,
  “AvailabilityValue”  :”  100%”
}]
}
"RequestId" : "283746AF-82B3-4BFF-88CC-BF34CDE2732”
}
```

Description

This API is used to query one or multiple instances under an account.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	-	For details, see Public request parameters.
Action	String	Yes	Operation API name. Value: DescribeInstances.
InstanceIds	String	No	Instance ID (globally unique). This parameter is required when an instance ID is specified. To query multiple instance IDs, separate the IDs by comma (,). If the parameter value is left blank, all instances under the account are queried by default.
InstanceStatus	String	No	Filter instances to be returned by the instance status: - Normal

			- Creating - Changing - Inactive	
ChargeType	String	No	Filter instances to be returned by the payment options: - PrePaid - PostPaid	
RegionId	String	Yes	Call DescribeRegions to query the RegionId.	
InstanceType	String	No	Filter instances by the engine type: - Memcache - Redis	
PageNumber	Integer	No	Page number of the instance status list. Initial value: 1. Default value: 1.	
PageSize	Integer	No	Number of lines per page in paging query. Maximum value: 50. Default value: 10.	
NetworkType	String	No	Filter instances by the network type: - CLASSIC - VPC	

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.
Instances	List	Array composed of Instances
TotalCount	Integer	Total number of instances

PageNumber	Integer	Page number of the instance list
PageSize	Integer	Number of lines per page set during input

Instance parameter structure

Name	Type	Description
InstanceId	String	Instance ID (globally unique)
InstanceName	String	Instance name
Capacity	Long	Capacity of the applied ApsaraDB for Redis instance. Unit: MB.
InstanceClass	String	Instance type
Bandwidth	Long	Instance bandwidth limit. Unit: Mbit/s.
Connections	Long	Instance connection quantity limit. Unit: count.
ConnectionDomain	String	Instance connection domain (only Intranet access supported).
Port	Int	Connection port
UserName	String	Connection user name
RegionId	String	Region of the applied ApsaraDB for Redis instance
ZoneId	String	Lower-level zone ID of the RegionId
InstanceStatus	String	Instance status: - Normal - Creating - Changing - Inactive - Transforming - BackupRecovering - MinorVersionUpgrading
ChargeType	String	Payment option. Supported values: PrePaid and PostPaid.
CreateTime	String	Instance creation time. The time format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ.

EndTime	String	Expiration time for a pre-paid instance. The time format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ.
NetworkType	String	Network type. Supported values: CLASSIC and VPC.
VpcId	String	VPC ID
VSwitchId	String	VSwitch ID
PrivateIpAddr	String	Private IP address

Note: In consideration of the historical compatibility, some returned fields (such as Config) of the function are not mentioned in this document. Alibaba Cloud will delete these fields gradually in the future. In this case, do not rely on the returned fields not involved in this document when calling the APIs.

Example

Request example

```
https://r-kvstore.aliyuncs.com.com/
?<Public request parameters>
&Action=DescribeInstances
&PageNumber=1
&PageSize=10
&InstanceId=de5d88e34d004211
```

Response example

```
{
"Instances" : {
"Instance" : [{
"Bandwidth" : 128,
"Capacity" : 512,
"ConnectionDomain" : "de5d88e34d004211.m.cnhzalicm10pub001.r-kvstore.aliyuncs.com.com",
"Connections" : 300,
"ZoneId" : "cn-qingdao-b",
"InstanceId" : "de5d88e34d004211",
"InstanceName" : "wl123456",
"InstanceStatus" : "Available",
"InstanceClass" : "redis.master.mid.default",
```

```
"Port" : 11211,
"RegionId" : "cn-qingdao",
"UserName" : "de5d88e34d004211"
 “NetworkType” :” CLASSSIC”
 “ChargeType” :” PostPaid”
}
]
},
"PageNumber" : 1,
"PageSize" : 10,
"TotalCount" : 1,
"RequestId" : "969D0A1D-C91A-4837-9F70-49785DF9BDCE"
}
```


Description

This API is used to query the data center (region) where instances can be created.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeRegions.

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.
RegionIds	List	The RegionIds is a list, in which every element consists of the RegionId and ZoneId. The ZoneId is a string, and multiple ZoneIds are separated by comma (,).

Example

Request example

```
https://r-kvstore.aliyuncs.com、
?<Public request parameters>
&Action=DescribeRegions
```

Response example

```
 {
"RequestId":"535A88D3-5408-4B29-AFD4-07319D97EBC4",
"RegionIds":
{
{
"ZoneIds":"cn-qingdao-b",
"RegionId":"cn-qingdao",
},
{
"ZoneIds":"cn-shenzhen-a",
"RegionId":"cn-shenzhen",
},
{
"ZoneIds":"cn-hangzhou-d,cn-hangzhou-b",
"RegionId":"cn-hangzhou"
},
{
"ZoneIds":"cn-beijing-a",
"RegionId":"cn-beijing"
}
}
}
```

Description

This API is used to irrecoverably clear data stored in an instance.

Operations of this API are asynchronous. After you call this API, the result is immediately returned, and data of the instance is cleared in the background.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	-	For details, see Public request parameters.
Action	String	Yes	Required parameter. Value: FlushInstance.

InstanceId	String	Yes	Instance ID (globally unique)

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= FlushInstance
&InstanceId=657e361a074646d5
```

Response example

```
{
"RequestId" : "96893674-E50C-495D-AB0E-2F12C1E0FD45"
}
```

Description

This API is used to modify attributes of an instance, including the name or password.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	-	For more information, see Public request parameters.
Action	String	Yes	Operation API name. Value: ModifyInstanceAttribute.

InstanceId	String	Yes	Instance ID (globally unique)
InstanceName	String	No	Modified instance name. The name is a string of 2 to 128 characters and must start with a letter (uppercase or lowercase) or a Chinese character. Special characters, such as the at sign (@), slash (/), colon (:), equal sign (=), quotation mark (“), angle brackets (<>), braces ({}), and square brackets ([]) and space, are not supported.
NewPassword	String	No	Instance password. The password is a string of 8 to 30 characters and must contain uppercase letters, lowercase letters, and numbers. **Note**: The following special characters are not supported now: Exclamation mark (!), angle brackets (<>), parentheses (()), square brackets ([]), braces ({}), comma (,), backquote (`), tilde (~), period (.), hyphen (-), underscore (_), at sign (@), number sign (#), dollar sign ($), percent sign (%), caret (^), ampersand (&), and asterisk (*).

Response parameters

Name	Type	Description

Public response parameters	-	For more information, see Public response parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= ModifyInstanceAttribute
&InstanceId=657e361a074646d5
&NewPassword=Qa12345678
&InstanceName=TestInstance
```

Response example

```
{
"RequestId" : "E3B35BEA-9EB0-402C-88CF-C46CCCC1EE59"
}
```

Description

This API is used to modify the maintenance time. Alibaba Cloud may perform routine maintenance for instances at the specified maintenance time.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Required parameter. Value: ModifyInstanceMaintainTime.
InstanceId	String	Yes	Instance ID (globally unique)
MaintainStartTime	String	Yes	Maintenance start time
MaintainEndTime	String	Yes	Maintenance end time

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action=ModifyInstanceMaintainTime
&InstanceId=657e361a074646d5
& MaintainStartTime=02:00Z
& MaintainEndTime=06:00Z
```

Response example

```
{
"RequestId" : "A099747A-0826-499D-9422-381C07337F73"
}
```

Description

If an instance has been migrated from a classic network to a VPC and the classic network connection address is retained, this API can be called to prolong the retention period of the classic network connection address.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: ModifyInstanceNetExpireTime.

InstanceId	String	Yes	Instance ID (globally unique)
ConnectionString	String	Yes	Domain name used to access the classic network
ClassicExpiredDays	String	Yes	Retention period. Supported values: 14, 30, 60, and 120.

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= ModifyInstanceNetExpireTime
&ConectionString= fdafas32323ed.redis.rds.aliyuncs.com
&InstanceId=fdafas32323ed
& ClassicExpiredDays=120
```

Response example

```
{
"RequestId" : "AAAF99B1-69ED-4E80-8CD5-272C09E46ACF"
}
```

Description

This API is used to set the IP address whitelist of an instance, so that only authorized ECS IP addresses can access the instance.

Request parameters

Name	Type	Required or not	Description

Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Required parameter. Value: ModifySecurityIps.
InstanceId	String	Yes	Instance ID (globally unique)
SecurityIps	String	Yes	IP address whitelist to be modified
SecurityIpGroupName	String	Yes	Whitelist group

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= ModifySecurityIps
&InstanceId=657e361a074646d5
&SecurityIps=1.1.1.1，2.2.2.2
&SecurityIpGroupName=testgroup
```

Response example

```
{
"RequestId" : "AAAF99B1-69ED-4E80-8CD5-272C09E46ACF"
}
```

Description

This API is used to switch the network type of an instance. An instance can be switched from a classic network to a VPC.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Required parameter. Value: SwitchNetwork.
InstanceId	String	Yes	Instance ID (globally unique)
TargetNetworkType	String	Yes	Network type to be switched to. - VPC - Classic Currently, an instance can be switched only from a classic network to a VPC. In this case, this parameter must be set to VPC.
VpcId	String	No	Virtual network ID of the switched VPC
VSwitchId	String	No	VSwitch ID of the switched VPC. This parameter must be specified if VpcId is specified.
RetainClassic	String	No	Whether the classic network IP address is retained. Default value: False. - True: retained - False: not retained
ClassicExpiredDays	String	No	Period to retain the classic network IP address. Unit: day. Supported values: 14, 30, 60, and 120. This parameter must be specified if RetainClassic is set to True.

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= SwitchNetwork
&InstanceId=fdafas32323ed
& TargetNetworkType=VPC
&VpcId=fadsfa
&VSwitchId=131ed
&RetainClassic=True
&ClassicExpiredDays=30
```

Response example

```
{
"RequestId" : "AAAF99B1-69ED-4E80-8CD5-272C09E46ACF"
}
```

Backup and recovery

Description

This API is used to create a backup.

Operations of this API are asynchronous. After you call this API, the result is immediately returned, and the backup is created in the background.

Request parameters

Name	Type	Required or not	Description

Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: CreateBackup.
InstanceId	String	Yes	Instance ID

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com、
?<Public request parameters>
&Action= CreateBackup
&InstanceId= de5d88e34d004211
```

Response example

```
{
"RequestId" : "5C97648D-C85F-4D58-A71F-7B6750856BF7”
}
```

Description

This API is used to query a backup policy.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see

			Public request parameters.
Action	String	Yes	Required parameter. Value: ModifyBackupPolicy.
InstanceId	String	Yes	Instance ID
PreferredBackupTime	String	Yes	Backup time, in the format of HH:mmZ-HH:mm Z
PreferredBackupPeriod	String	Yes	Backup cycle: - Monday - Tuesday - Wednesday - Thursday - Friday - Saturday - Sunday

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com、
?<Public request parameters>
&Action= ModifyBackupPolicy
&InstanceId= de5d88e34d004211
&PreferredBackupTime=00:00Z-04:00Z
&PreferredBackupPeriod= Saturday
```

Response example

```
{
"RequestId" : "5C97648D-C85F-4D58-A71F-7B6750856BF7”
}
```

Description

This API is used to query a backup policy you set. You can query the backup cycle, backup time, and other details of an instance.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeBackupPolicy.
InstanceId	String	Yes	Instance ID

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.
BackupRetentionPeriod	String	Backup retention period
PreferredBackupTime	String	Backup time, in the format of HH:mmZ- HH:mm Z
PreferredBackupPeriod	String	Backup cycle: - Monday - Tuesday - Wednesday - Thursday - Friday - Saturday - Sunday
PreferredNextBackupTime	String	Next backup time

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= DescribeBackupPolicy
&InstanceId= de5d88e34d004211
```

Response example

```
{
"BackupRetentionPeriod":"7"
"PreferredBackupTime":"06:00Z-07:00Z"
"PreferredNextBackupTime":"2017-10-19T06:16Z"
"PreferredBackupPeriod":"Monday,Tuesday,Wednesday,Thursday,Friday,Saturday,Sunday"
"RequestId" : "5C97648D-C85F-4D58-A71F-7B6750856BF7"
}
```

Description

This API is used to query the details of a backup file, including the backup start time, file size, backup mode, download address, and other information.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeBackups.
InstanceId	String	Yes	Instance ID
BackupId	String	No	Backup set ID
PagSize	String	Yes	Number of records per page. Supported values: 30, 50, and 100.
PageNumber	String	Yes	Page number. It must be greater than 0 and cannot exceed the maximum value of Integer.
StrartTime	String	Yes	Query start time

EndTime	String	Yes	Query end time

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.
Backups	List	Array composed of Backups
PageNumber	Integer	Page number
TotalCount	Integer	Total number of backups
PageSize	Integer	Number of records per page

Backup parameter structure

Name	Type	Description
BackupId	String	Backup set ID
BackupDBNames	String	Backup database name
BackupStatus	String	Backup set status: - Success - Failed
BackupStartTime	String	Backup start time
BackupEndTime	String	Backup end time
BackupType	String	Backup type: - FullBackup - IncrementalBackup
BackupMode	String	Backup mode: - Automated - Manual
BackupMethod	String	Backup method: - Logical - Physical
BackupDownloadURL	String	Download address of the backup file
BackupSize	String	Backup size

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= DescribeBackups
&InstanceId= de5d88e34d004211
& PageNumber=1
&PageSize=10
&InstanceId=de5d88e34d004211
```

Response example

```
{
{
" Backups " : {
" Backup " : [{
 “BackupId":"187709043",
"BackupDBNames":"all",
"BackupStatus":"Success",
 “BackupType”:” FullBackup”,
"BackupStartTime":"2017-10-18T10:34:52Z",
"BackupEndTime":"2017-10-18T10:36:06Z",
"BackupMode":"Manual",
"BackupMethod":"Physical",
"BackupDownloadURL":"https://rdsbak-st-v2.oss-cn-
shenzhen.aliyuncs.com/custins4588367/hins3402581_data_20171018183408.rdb?OSSAccessKeyId=LTAITfQ7krsrEw
Rn&Expires=1508409386&Signature=rYyFYVdMOhhTJ0TAPafGc6oJSuk%3D",
"BackupSize":"1024"
}
]
},
"PageNumber" : 1,
"PageSize" : 10,
"TotalCount" : 1,
"RequestId" : "5C97648D-C85F-4D58-A71F-7B6750856BF7”
}
```

Description

This API is used to recover data to the master instance based on a backup set.

> **Note**: This operation may have a high risk because the backup data will cover the instance data. In this case, operate with caution.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: RestoreInstance.
InstanceId	String	Yes	Instance ID
BackupId	String	Yes	Backup result set ID

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= RestoreInstance
&InstanceId= de5d88e34d004211
&BackupId=fdafasf111
```

Response example

```
{
"RequestId" : "AFA391BF-808F-4DA6-80A2-A382108A0945"
}
```

Monitor management

Description

This API is used to query the list of available monitoring parameters. The results are returned in the format of <parameter:unit>.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeMonitorItems.

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.
MonitorItems	List	List of available monitoring parameters

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action=DescribeMonitorItems
```

Response example

```
{
"MonitorItems" : {
"MonitorItem" : [{
```

```
"MonitorKey" : "GetQ",
"Unit" : "Counts\/s"
}, {
"MonitorKey" : "Flush",
"Unit" : "Counts\/s"
}, {
"MonitorKey" : "UsedMemCache",
"Unit" : "Bytes"
}, {
"MonitorKey" : "ReplaceQ",
"Unit" : "Counts\/s"
}
]
},
"RequestId" : "B906A893-58A3-4644-AC2D-A2C9B08706C1"
}
```


Description

This API is used to view the historical monitoring data of an instance.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For details, see Public request parameters.
Action	String	Yes	Required parameter. Value: DescribeHistoryMonitorValues.
InstanceId	String	Yes	Instance ID
StartTime	String	Yes	Start time of the historical monitoring data. The time format follows the ISO8601 notation, and the UTC time is used in the format of YYYY-MM-DDThh:mm:ssZ.
EndTime	String	Yes	End time of the historical monitoring data. The time format follows the ISO8601 notation, and the UTC time is used in the format

			of YYYY-MM-DDThh:mm:ssZ. The value of EndTime must be greater than or equal to that of StartTime.
IntervalForHistor	String	Yes	The value must be 01m, 05m, 15m, or 60m. This parameter specifies the interval for sampling monitoring data. Monitoring samples are collected every N minutes.
MonitorKeys	String	No	Metric key. The value of this parameter is queried using the DescribeMonitorItems function.

Response parameters

Name	Type	Description
Public return parameters	-	For details, see Public return parameters.
MonitorHistory	String	Monitoring information returned in JSON format. For details about returned metrics, see View a metric list. **Note**: To improve the data transmission efficiency, only metrics whose values are not 0 are returned. Metrics not displayed are all set to the default value 0.

Example

Request example

```
https://r-kvstore.aliyuncs.com、
?<Public request parameters>
&Action= DescribeHistoryMonitorValues
```

```
&InstanceId= de5d88e34d004211
&EndTime=2014-11-27T12%3A02%3A00Z
&StartTime=2014-11-27T12%3A00%3A00Z
&IntervalForHistory=01m
```

Response example

```
{

"MonitorHistory" :
"{\\"2014-11-
27T12:00:00Z\\":{\\"IsConnectControl\\":false,\\"IsFlowControl\\":false,\\"ItemCount\\":1,\\"QuotaConnection\\":500,
\\"QuotaFlow\\":15360,\\"QuotaMemCache\\":1073741824,\\"QuotaQps\\":9000,\\"UsedMemCache\\":14},

\\"2014-11-
27T12:01:00Z\\":{\\"IsConnectControl\\":false,\\"IsFlowControl\\":false,\\"ItemCount\\":1,\\"QuotaConnection\\":500,
\\"QuotaFlow\\":15360,\\"QuotaMemCache\\":1073741824,\\"QuotaQps\\":9000,\\"UsedMemCache\\":14},

\\"2014-11-
27T12:02:00Z\\":{\\"IsConnectControl\\":false,\\"IsFlowControl\\":false,\\"ItemCount\\":1,\\"QuotaConnection\\":500,
\\"QuotaFlow\\":15360,\\"QuotaMemCache\\":1073741824,\\"QuotaQps\\":9000,\\"UsedMemCache\\":14}

}",

"RequestId" : "5C97648D-C85F-4D58-A71F-7B6750856BF7"

}
```

Parameter management

Description

This API is used to view the configuration parameters of an instance.

Request parameters

Name	Type	Required or not	Description
Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value:

			DescribeInstanceConfig.
InstanceId	String	Yes	Instance ID

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.
Config	String	Instance configuration parameter. For more information, see Instance configuration parameter table.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= DescribeInstanceConfig
&InstanceId= de5d88e34d004211
```

Response example

```
{
"Config":"{\"EvictionPolicy\":\"volatile-lru\",\"hash-max-ziplist-entries\":512,\"hash-max-ziplist-value\":64,\"list-max-ziplist-entries\":512,\"list-max-ziplist-value\":64,\"set-max-intset-entries\":512,\"zset-max-ziplist-entries\":128,\"zset-max-ziplist-value\":64},
"RequestId":"59A58517-F8FF-44E5-B90F-F386DB3E4AB8"
}
```

Description

This API is used to change the configuration parameters of an instance.

Request parameters

Name	Type	Required or not	Description

Public request parameters	-	Yes	For more information, see Public request parameters.
Action	String	Yes	Required parameter. Value: ModifyInstanceConfig.
InstanceId	String	Yes	Instance ID
Config	String	Yes	Instance configuration parameter (JSON String). For more information, see Instance configuration parameter table.

Response parameters

Name	Type	Description
Public return parameters	-	For more information, see Public return parameters.

Example

Request example

```
https://r-kvstore.aliyuncs.com
?<Public request parameters>
&Action= ModifyInstanceConfig
&InstanceId= de5d88e34d004211
&Config={"hash-max-ziplist-entries":"512"}
```

Response example

```
{
"RequestId":"59A58517-F8FF-44E5-B90F-F386DB3E4AB8"
}
```

Appendix

Types of ApsaraDB for Redis instances

Standard version with dual-host high-availability configuration

Type	InstanceClass (API used)	Maximum number of connections	Maximum throughput (MB)
256 MB master/slave	redis.master.micro.default	10000	10
1 GB master/slave	redis.master.small.default	10000	10
2 GB master/slave	redis.master.mid.default	10000	16
4 GB master/slave	redis.master.stand.default	10000	24
8 GB master/slave	redis.master.large.default	10000	24
16 GB master/slave	redis.master.2xlarge.default	10000	32
32 GB master/slave	redis.master.4xlarge.default	10000	32
1 GB master/slave (advanced)	redis.master.small.special2x	20000	48
2 GB master/slave (advanced)	redis.master.mid.special2x	20000	48
4 GB master/slave (advanced)	redis.master.stand.special2x	20000	48
8 GB master/slave (advanced)	redis.master.large.special1x	20000	48
16 GB master/slave (advanced)	redis.master.2xlarge.special1x	20000	48
32 GB master/slave (advanced)	redis.master.4xlarge.special1x	20000	48

Note: The Pay-As-You-Go payment does not support the 256 MB master/slave version.

Standard version with single-host configuration

Type	InstanceClass (API used)	Maximum number of connections	Maximum throughput (MB)
1 GB single-host	redis.basic.small.default	10000	10
2 GB single-host	redis.basic.mid.default	10000	16
4 GB single-host	redis.basic.stand.default	10000	24
8 GB single-host	redis.basic.large.default	10000	24
16 GB single-host	redis.basic.2xlarge.default	10000	32
32 GB single-host	redis.basic.4xlarge.default	10000	32
1 GB single-host (advanced)	redis.basic.small.special2x	20000	48
2 GB single-host (advanced)	redis.basic.mid.special2x	20000	48
4 GB single-host (advanced)	redis.basic.stand.special2x	20000	48
8 GB single-host (advanced)	redis.basic.large.special2x	20000	48
16 GB single-host (advanced)	redis.basic.2xlarge.special2x	20000	48
32 GB single-host (advanced)	redis.basic.4xlarge.special2x	20000	48

Note: Regions outside China and financial regions do not support the single-host versions currently.

Cluster version with dual-host configuration

Type	InstanceClass (API used)	Maximum number of connections	Maximum throughput (MB)
16 GB cluster	redis.sharding.small.default	80000	384
32 GB cluster	redis.sharding.small.default	80000	384
64 GB cluster	redis.sharding.large.default	80000	384

128 GB cluster	redis.sharding.2xlarge.default	160000	768
256 GB cluster	redis.sharding.4xlarge.default	160000	768

Cluster version with single-host cache configuration

Type	InstanceClass (API used)	Maximum number of connections	Maximum throughput (MB)
16 GB cluster (single-host)	redis.sharding.basic.small.default	80000	384
32 GB cluster (single-host)	redis.sharding.basic.mid.default	80000	384
64 GB cluster (single-host)	redis.sharding.basic.large.default	80000	384
128 GB cluster (single-host)	redis.sharding.basic.2xlarge.default	160000	768
256 GB cluster (single-host)	redis.sharding.basic.4xlarge.default	160000	768

Note: Regions outside China and financial regions do not support the single-host versions currently.

Types of ApsaraDB for Memcache instances

Type	InstanceClass (API used)
1-core 1 GB	memcache.master.small.default
1-core 2 GB	memcache.master.mid.default
1-core 4 GB	memcache.master.stand.default
1-core 8 GB	memcache.master.large.default
2-core 16 GB	memcache.sharding.small.default
4-core 32 GB	memcache.sharding.mid.default
8-core 64 GB	memcache.sharding.large.default
16-core 128 GB	memcache.sharding.2xlarge.default
16-core 256 GB	memcache.sharding.4xlarge.default

Error code description	Code	message	httpStatusCode
The API called by the subaccount is unauthorized.	Forbidden.RAM	User not authorized to operate on the specified resource, or this API doesn’t support RAM.	403
The operation is unavailable in RAM mode.	Forbedden.NotSupportRAM	This action does not support accessed by RAM mode.	403
An exception or error occurs on the server.	ServiceUnavailable	The request has failed due to a temporary failure of the server.	503
The input instance status does not exist.	InvalidStatus.NotFound	The Status provided does not exist in our records.	404
The input parameter is invalid.	InvalidParameter	The specified parameter \” InstanceName” is not valid.	400
A common user calls on management APIs.	Forbbiden.NotAdminUser	User not authorized to operate on the specified API as you are not the administrator.	403
The parameter is missing.	MissingParameter	Specified parameter is missing.	400
At least one of the InstanceName and NewPassword is included.	MissingParameter	InstanceName/NewPassword at least one is mandatory for this action.	400
No OwnerId is specified when this API is called.	MissingParameter	The input parameter OwnerId,OwnerAccount that is mandatory for processing this request is not supplied.	403
The specified Token is invalid.	InvalidToken.Malformed	The Specified parameter \” Token\” is not valid.	400
The specified InstanceName is invalid.	InvalidInstanceName.Malformed	The Specified parameter \” InstanceName\” is not valid.	400
The specified Password is invalid.	InvalidPassword.Malformed	The Specified parameter \” Password\” is not valid.”	400
The specified	InvalidInstances.Malf	The Specified param	400

Instances is invalid.	ormed	eter \" Instances\" i s not valid.	
The specified StartTime is invalid.	InvalidStartTime.Mal formed	The Specified param eter \" StartTime\" is not valid.	400
The specified EndTime is invalid.	InvalidEndTime.Malf ormed	The Specified param eter \" EndTime\" i s not valid.	400
The specified InstanceIds is invalid.	InvalidInstanceIds.M alformed	The Specified param eter \" InstanceIds\ " is not valid.	400
The balance is insufficient.	InsufficientBalance	Your account does n ot have enough bala nce.	400
You have not performed real-name authentication.	RealNameAuthentic ationError	Your account has no t passed the real-name authentication yet.	403
The purchase quantity has exceeded the limit.	QuotaExcee	Living afterpay insta nces quota exceede d.	400
The capacity configuration is invalid.	InvalidCapacity.NotF ound	The Capacity provid ed does not exist in our records.	400
A used client token is used for the request. However, the content of the request is different from that of the previous request with the used token.	IdempotentParamet erMismatch	Request uses a client token in a previous request but is not id entical to that reque st.	400
The storage in the specified zone is insufficient.	QuotaNotEnough	Quota not enough i n this zone.	400
You are not authorized to call the order-class APIs.	Forbbiden.SubUser	The specified action is not available for y ou.	403
Access is denied by the Alibaba Cloud risk control system.	Forbidden.RiskContr ol	This operation is for bidden by Aliyun Ris k Control system.	403
The specified Region does not exist.	InvalidRegion.NotFo und	The RegionId or Zon eId provided does n ot exist in our record s.	404
The specified ZoneId is invalid.	InvalidZoneId.NotFo und	The ZoneId provided is invalid.	400
The instance ID does	InvalidInstanceId.No	The InstanceId provi	404

not exist.	tFound	ded does not exist in our records.	
The password is incorrect.	IncorrectPassword	The Password provided is not correct.	400
The service is unavailable.	ServiceNotSupported	The specified service is not supported.	400
A renewal and configuration change order does not take effect.	HasRenewChangeOrder	This instance has a renewChange order.	400
An internal error occurs.	InternalError	The request processing has failed due to some unknown error.	500
The backup time is invalid.	InvalidPreferredBackupTime	Specified preferred backup time is not valid.	400
The input backup type is invalid.	InvalidBackupType.Format	Specified backup type is not valid.	400
The input backup method is invalid.	InvalidBackupMethod.Format	Specified backup method is not valid.	400
A backup job already exists, which is not supported.	BackupJobExists	A backup job already exists in the specified DB instance.	400
The number of backup times exceeds the limit.	BackupTimesExceeded	Exceeding the daily backup times of this DB instance.	400
Input at least one parameter.	ParameterLeastAssociate	Must input at least one optional parameter.	400
The input backup retention period is invalid.	InvalidBackupRetentionPeriod.Malformed	Specified backup retention period is not valid.	400
The input next backup time is invalid.	InvalidPreferredBackupTime.Format	Specified preferred backup time is not valid.	400
The input backup cycle is invalid.	InvalidPreferredBackupPeriod.Malformed	Specified backup period is not valid.	400
The current instance type does not support this operation.	IncorrectDBInstanceType	Current DB instance type does not support this operation	400
The input key is invalid.	InvalidKey.Malformed	Specified key is not valid.	400
The signature is	SignatureNonceUse	Specified signature	400

used.	d	nonce was used already.	
No virtual IP address can be assigned.	AllocateVpcIp.NotEnough	Ip resource is not enough	400
Instances of the specified type cannot be created in the zone.	Zone.NotSupport	Specified zone does not support creating with instance class.	400
The specification code is invalid.	MissingClassCode	Capacity or InstanceClass is mandatory for this action.	400
The specified instance type is not supported.	InvalidDBInstanceClass.NotFound	Specified DB instance class is not found.	404
The instance is locked.	IncorrectDBInstanceLockMode	Current DB instance lock mode does not support this operation.	400
The backup set ID does not exist.	InvalidBackupSetID.NotFound	Specified backup set ID does not exist.	400
The instance status does not support this operation.	IncorrectDBInstanceState	Current DB instance state does not support this operation.	400
The resources are insufficient.	InsufficientResourceCapacity	There is insufficient capacity available for the requested instance.	400
The input end time is invalid.	InvalidEndTime.Format	Specified end time is not valid.	400
The input duration for reserving a classic IP address in invalid.	InvalidClassicExpiredDays.Format	The specified classicExpiredDays format is not valid.	400
The backup set status does not support this operation.	IncorrectBackupSetState	Current backup set state does not support operations.	400
The whitelist format is invalid.	InvalidSecurityIPList.Format	Specified security IP list format is not valid.	400

The following table describes parameter configuration of ApsaraDB for Redis instances.

Parameter name	Parameter meaning	Parameter value

maxmemory-policy	The eviction policy when the memory exceeds the threshold value. ApsaraDB for Redis supports six data eviction policies.	- VolatileLRU: Original data is evicted based on the LRU algorithm, but only data with an expiration time is evicted. - VolatileTTL: Only data with an expiration time is evicted based on the TTL values in ascending order. - AllKeysLRU: Original data is evicted based on the LRU algorithm. - VolatileRandom: Original data is evicted randomly, but only data with an expiration time is evicted. - AllKeysRandom: Original data is evicted randomly. - NoEviction: No data is evicted, and an error message is returned when new data is written.
hash-max-ziplist-entries	A hash object uses ziplist encoding only if the hash object meets both of the following conditions: - The number of key-value pairs stored in the hash object is smaller than or equal to the value of list-max-ziplist-entries. - The string lengths of keys and values in all key-value pairs stored in the hash object are smaller than or equal to the value of list-max-ziplist-value.	Default value: 512
hash-max-ziplist-value	A hash object uses ziplist encoding only if the hash object meets both of the following conditions: - The number of key-value pairs stored in the hash object is smaller than or equal to the value of list-max-ziplist-entries. - The string lengths of keys and values in all key-value pairs stored in the hash	Default value: 64

	object are smaller than or equal to the value of list-max-ziplist-value.	
list-max-ziplist-entries	A list object uses ziplist encoding only if the list object meets both of the following conditions: - The number of key-value pairs stored in the list object is smaller than or equal to the value of list-max-ziplist-entries. - The string lengths of keys and values in all key-value pairs stored in the list object are smaller than or equal to the value of list-max-ziplist-value.	Default value: 512
list-max-ziplist-value	A list object uses ziplist encoding only if the list object meets both of the following conditions: - The number of key-value pairs stored in the list object is smaller than or equal to the value of list-max-ziplist-entries. - The string lengths of keys and values in all key-value pairs stored in the list object are smaller than or equal to the value of list-max-ziplist-value.	Default value: 64
set-max-intset-entries	When a set object meets the conditions that the number of entries is smaller than or equal to the value of set-max-intset-entries and all entries are decimal integers, the set object uses intset encoding.	Default value: 512
zset-max-ziplist-entries	A zset object uses ziplist encoding only if the zset object meets both of the following conditions: - The number of key-value pairs stored in the zset object is smaller than or equal to the value of zset-max-ziplist-entries.	Default value: 128

	- The string lengths of keys and values in all key-value pairs stored in the zset object are smaller than or equal to the value of zset-max-ziplist-value.	
zset-max-ziplist-value	A zset object uses ziplist encoding only if the zset object meets both of the following conditions: - The number of key-value pairs stored in the zset object is smaller than or equal to the value of zset-max-ziplist-entries. - The string lengths of keys and values in all key-value pairs stored in the zset object are smaller than or equal to the value of zset-max-ziplist-value.	Default value: 64
notify-keyspace-events	The keyspace notifications allow clients to subscribe to channels or modes to receive events modifying Redis datasets in some way.	- K: The keyspace notifications. All notifications are prefixed with __keyspace\@__. - E: The keyevent notifications. All notifications are prefixed with __keyevent@__. - g: The notifications about general commands that are non-type specific, such as DEL, EXPIRE, and RENAME. - $: The string command notifications. -l: The list command notifications. - s: The set command notifications. -h: The hash command notifications. - z: The sorted set command notifications. -x: The expired events. An expired event is sent when an expired key is deleted.

		- e: The evicted events. An evicted event is sent when a key is evicted for maxmemory. - A: The alias for g$lshzxe.

SDK reference

You can download SDKs of the latest versions from the following addresses:

Java SDK

Python SDK

PHP SDK

Nodejs SDK

Net SDK