

Alibaba Cloud

PolarDB PostgreSQL API Reference

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Document conventions

Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
<code>Courier font</code>	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1.API overview

provides the following API operations.

Regions

API	Description
DescribeRegions	Queries the regions and the zones that supports.

Clusters

Category	API	Description
Cluster management	CreateDBCluster	Creates a cluster.
	DeleteDBCluster	Releases a specified pay-as-you-go cluster.
	DescribeDBClusters	Queries the cluster list or the PolarDB clusters that a RAM user is authorized to access.
	DescribeDBClusterAttribute	Queries the detailed attributes of a specified cluster.
	ModifyDBClusterMaintainTime	Changes the routine maintenance window of a specified cluster. Generally, the routine maintenance window is set to off-peak hours. Alibaba Cloud maintains your cluster in the specified maintenance window to minimize the impacts on your business.
	ModifyDBClusterDescription	Changes the name of a specified cluster to facilitate cluster maintenance.
Architecture deployment	DescribeTasks	Queries the progress details of the tasks (such as creating a cluster) that are generated based on API operations.
	ModifyDBClusterPrimaryZone	Changes the primary zone of a specified cluster.
	FailoverDBCluster	Performs manual switchover between the primary node and a read-only node of a specified cluster. You can specify a read-only node as the new primary node.
Renewal management	DescribeGlobalDatabaseNetworks	Views the details about all the global database networks (GDNs) under an account.
	DescribeAutoRenewAttribute	Queries the auto-renewal status of subscription clusters.
	ModifyAutoRenewAttribute	Specifies the auto-renewal attribute for a specified subscription cluster.

Category	API	Description
	DescribeDBClusterAvailableResources	Queries available resources of clusters.

Kernel

API	Description
DescribeDBClusterVersion	Queries the details about the current kernel version of a specified cluster.

Data security

Category	API	Description
Whitelist	ModifyDBClusterAccessWhitelist	Creates or modifies the whitelist (the IP whitelist and security groups) of a specified cluster.
	DescribeDBClusterAccessWhitelist	Queries the IP whitelist and the security groups of a specified cluster that can be accessed.
SSL encryption	ModifyDBClusterSSL	Enables or disables Secure Sockets Layer (SSL) encryption or updates the Certificate Authorities (CA) certificate for a specified cluster.
	DescribeDBClusterSSL	Queries the SSL settings of a specified cluster.
TDE	DescribeDBClusterTDE	Queries the details about the transparent data encryption (TDE) settings of a specified cluster.
	ModifyDBClusterTDE	Enables the TDE feature or modifies the encryption method for a specified cluster.

Nodes

API	Description
CreateDBNodes	Adds a read-only node to a specified cluster.
ModifyDBNodeClass	Changes the node specifications of a specified cluster.
RestartDBNode	Restarts a node in a specified cluster.
DeleteDBNodes	Deletes read-only nodes from a specified cluster.

Cluster parameters

API	Description
DescribeDBClusterParameters	Queries the parameters of a specified cluster.

API	Description
ModifyDBClusterParameters	Modifies the parameters of a specified cluster.

Endpoints

API	Description
CreateDBEndpointAddress	Creates the public endpoint of a specified cluster. The public endpoint can be the primary endpoint, the default cluster endpoint, or a custom cluster endpoint.
CreateDBClusterEndpoint	Creates a custom cluster endpoint for a specified cluster.
DescribeDBClusterEndpoints	Queries the endpoint information about a specified cluster.
ModifyDBClusterEndpoint	Modifies the attributes of a specified cluster endpoint, such as the read/write mode and the consistency level. You can also specify whether newly added nodes are automatically associated with the specified cluster endpoint.
ModifyDBEndpointAddress	Modifies the public endpoint of a specified cluster. The public endpoint can be the primary endpoint, the default cluster endpoint, or a custom cluster endpoint.
DeleteDBEndpointAddress	Releases the public endpoint of a specified cluster. The public endpoint can be the primary endpoint, the default cluster endpoint, or a custom cluster endpoint.
DeleteDBClusterEndpoint	Releases a custom cluster endpoint of a specified cluster.

Logs

API	Description
DescribeSlowLogRecords	Queries the details about the slow query logs of a specified cluster.
DescribeDBClusterAuditLogCollector	Queries whether SQL data collector is enabled for a specified cluster. The features of SQL data collector include audit logs and SQL Explorer.
ModifyDBClusterAuditLogCollector	Enables or disables SQL data collector for a specified cluster. The features of SQL data collector include audit logs and SQL Explorer.

Accounts

API	Description
CreateAccount	Creates an account for a specified database.

API	Description
DescribeAccounts	Queries the information about a database account for a specified cluster.
ModifyAccountDescription	Modifies the remarks of a database account.
ModifyAccountPassword	Changes the password of a database account.
GrantAccountPrivilege	Grants a standard account the permissions to access one or more databases in a specified cluster.
RevokeAccountPrivilege	Revokes the access permissions on databases from a specified standard account.
ResetAccount	Resets a privileged account of .
DeleteAccount	Deletes a specified database account.

Databases

API	Description
CreateDatabase	Creates a database of a specified cluster.
DescribeDatabases	Queries the database list information about a specified cluster.
ModifyDBDescription	Modifies the description or the remarks of a specified database.
DeleteDatabase	Deletes a database from a specified cluster.

Backups

Category	API	Description
Backup management	CreateBackup	Manually creates a full snapshot backup for a specified cluster.
	DescribeBackups	Queries the backup information about a specified cluster.
	DescribeBackupTasks	Queries the backup task list of a specified cluster.
	DescribeBackupLogs	Queries the backup log list and the URLs for downloading backup logs.
	DescribeDetachedBackups	Queries the backup set information about a cluster that has been released.

Category	API	Description
	DescribeDBClustersWithBackups	Queries the details about the clusters that contain backup sets and reside in a specified region.
	DeleteBackup	Deletes the backups of a specified cluster.
Backup policy	DescribeBackupPolicy	Queries the automatic backup policy.
	DescribeLogBackupPolicy	Queries the retention policy for log backups in a specified cluster.
	ModifyBackupPolicy	Modifies the automatic backup policy.
	ModifyLogBackupPolicy	Modifies the retention policy for log backups in a specified cluster.

Data migration from ApsaraDB RDS for MySQL

API	Description
DescribeDBClusterMigration	Queries the data migration status of a specified cluster.
ModifyDBClusterMigration	Migrates data from an ApsaraDB RDS for MySQL instance to with one click, or rolls back data migration.
CloseDBClusterMigration	Cancels or completes a migration.

Tags

API	Description
TagResources	Attaches tags to clusters.
UntagResources	Detaches tags from clusters.
ListTagResources	Queries the tags that are attached to one or more clusters, or queries the cluster list to which one or more tags are attached.

Pending events

API	Description
DescribePendingMaintenanceAction	Queries the details about pending events.
DescribePendingMaintenanceActions	Queries the number of pending events for different task types.
ModifyPendingMaintenanceAction	Changes the task switch time of pending events.

Monitoring

API	Description
DescribeDBNodePerformance	Queries the performance data of a specified cluster node.
DescribeDBClusterPerformance	Queries the performance data of a specified cluster.
DescribeDBClusterMonitor	Queries the frequency at which the monitoring data of a specified cluster is collected.
ModifyDBClusterMonitor	Changes the frequency at which the monitoring data of a specified cluster is collected.

2. Use RAM for resource authorization

This topic describes how to use Resource Access Management (RAM) to authorize resources.

Description

All the clusters that are created by using an Alibaba Cloud account are the resources that are owned by the account. By default, an Alibaba Cloud account has full access permissions on the resources in the account.

You can use RAM to grant RAM users the permissions to access and manage the resources that are owned by your Alibaba Cloud account. For more information, see [Grant permissions to a RAM user](#).

The following table lists the descriptions of resources when you use RAM to grant permissions.

Request parameters

Resource type	Resource description in an authorization policy
dbcluster	acs:polardb:\$regionid:\$accountid:dbcluster/ acs:polardb:*:*:dbcluster/

The following table describes the parameters.

Parameter	Description
\$regionid	The ID of the region where the resource is available. You can specify this parameter as an asterisk (*).
\$accountid	The ID of your Alibaba Cloud account. You can specify this parameter as an asterisk (*).

Examples

```
{
  "Version": "1",
  "Statement": [
    {
      "Action": [
        "polardb:Describe*"
      ],
      "Effect": "Allow",
      "Resource": [
        "acs:polardb:cn-hangzhou:12345678901234:dbcluster/*"
      ]
    },
    {
      "Action": "polardb:Describe*",
      "Effect": "Allow",
      "Resource": [
        "*"
      ]
    }
  ]
}
```

3. RAM role linked to Apsara PolarDB

AliyunServiceRoleForPolarDB is the RAM role that is linked to the Apsara PolarDB service. This topic describes the application scenarios of the RAM role, and provides the details about how to delete the RAM role.

Background information

Apsara PolarDB may need to access other cloud services to implement functions. To meet this need, Alibaba Cloud provides the AliyunServiceRoleForPolarDB RAM role that allows Apsara PolarDB to access other cloud services.

Scenarios

If you want to bind a private domain name to a private IP address of Apsara PolarDB, Apsara PolarDB must access the resources of Alibaba Cloud DNS PrivateZone. In this case, Apsara PolarDB can assume the AliyunServiceRoleForPolarDB role to obtain the required access permissions.

AliyunServiceRoleForPolarDB

The name of the RAM role is AliyunServiceRoleForPolarDB.

The permission policy that is attached to the RAM role is AliyunServiceRolePolicyForPolarDB.

The permissions of the RAM role are described as follows:

```
{
  "Action": [
    "pvtz:DescribeUserServiceStatus",
    "pvtz:DescribeZones",
    "pvtz:DescribeZoneInfo",
    "pvtz:DescribeZoneRecords",
    "pvtz:CheckZoneName",
    "pvtz:AddZone",
    "pvtz:BindZoneVpc",
    "pvtz>DeleteZone",
    "pvtz:AddZoneRecord",
    "pvtz:UpdateZoneRecord",
    "pvtz>DeleteZoneRecord"
  ],
  "Resource": "*",
  "Effect": "Allow"
}
```

Delete the AliyunServiceRoleForPolarDB RAM role

Before you delete the AliyunServiceRoleForPolarDB RAM role, you must release the Apsara PolarDB cluster that is dependent on this RAM role.

- For more information about how to release an Apsara PolarDB cluster, see [Release a cluster](#).

4.Call methods

4.1. Common parameters

Common parameters, which consist of common request parameters and common response parameters, are required by all API operations.

Common request parameters

The following table describes common request parameters required by all API requests.

Parameter	Type	Required	Description
Format	String	No	The format of the response. Valid values: JSON and XML. Default value: JSON.
Version	String	Yes	The API version, in YYYY-MM-DD format. The current version is 2017-08-01.
AccessKeyId	String	Yes	The AccessKey ID provided to you by Alibaba Cloud.
Signature	String	Yes	The calculated signature string. For more information about how to calculate a signature, see Signatures .
SignatureMethod	String	Yes	The signature algorithm. Currently, only HMAC-SHA1 is supported.
Timestamp	String	Yes	The timestamp of the request. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC. For example, a value of <code>2021-03-17T12:00:00Z</code> indicates 20:00:00 on March 17, 2021, UTC+8.

Parameter	Type	Required	Description
SignatureVersion	String	Yes	The version of the signature algorithm. The current version is 1.0.
SignatureNonce	String	Yes	The unique random number that is used to prevent replay attacks. You must use different random numbers for different requests.

Common response parameters

The system returns a unique ID (RequestId) for each API request, regardless of the request result.

Sample request

```
https://polardb.aliyuncs.com/  
?Format=xml  
&Version=2017-08-01  
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNMldgI%3D  
&SignatureMethod=HMAC-SHA1  
&SignatureNonce=15215528852396  
&SignatureVersion=1.0  
&AccessKeyId=key-test  
&OwnerId=12345678  
&Timestamp=2021-03-17T12:00:00Z
```

Sample response

After you send an API request, the system returns a response in a uniform format. A returned HTTP status code 2xx indicates that the request is successful. A returned HTTP status code 4xx or 5xx indicates that the request fails. The system returns a success response in XML or JSON format. You can specify the format of the response in request parameters. The default format is XML. For the sake of readability, lines in all sample responses are wrapped and indented in the API reference. Note that lines are not formatted in actual responses.

- Sample success response
 - XML format

```
<? xml version="1.0" encoding="utf-8"? >  
<!--Result root node-->  
<Operation+Response>  
  <!--Tag of the response to the request-->  
  <RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>  
  <!--Result data-->  
</Operation+Response>
```

- JSON format

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216",
  /* Result data */
}
```

- Sample error response

If an error occurs during an API operation, the system does not return result data. You can identify the cause of the error according to [Client error codes](#).

If you send an HTTP request, the system returns an HTTP status code 4xx or 5xx to indicate an error. The returned response body contains the specific error code and error message. It also contains the globally unique request ID (RequestId) and the requested host ID (HostId). If you cannot identify the cause of the error, you can contact the Alibaba Cloud customer service staff and provide the returned HostId and RequestId to help the staff resolve the error.

- XML format

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

- JSON format

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

4.2. Request structures

Endpoints

The following table describes the endpoints for the API in different regions.

Region	Endpoint
• China (Hangzhou) • China (Shanghai) • China (Qingdao) • China (Beijing) • China (Shenzhen) • China (Hong Kong) • Singapore (Singapore) • US (Silicon Valley) • US (Virginia)	polardb.aliyuncs.com
China (Hohhot)	polardb.cn-huhehaote.aliyuncs.com
China (Zhangjiakou)	polardb.cn-zhangjiakou.aliyuncs.com
China (Chengdu)	polardb.cn-chengdu.aliyuncs.com
Germany (Frankfurt)	polardb.eu-central-1.aliyuncs.com
Malaysia (Kuala Lumpur)	polardb.ap-southeast-3.aliyuncs.com
India (Mumbai)	polardb.ap-south-1.aliyuncs.com
Indonesia (Jakarta)	polardb.ap-southeast-5.aliyuncs.com
Japan (Tokyo)	polardb.ap-northeast-1.aliyuncs.com
UK (London)	polardb.eu-west-1.aliyuncs.com
Australia (Sydney)	polardb.ap-southeast-2.aliyuncs.com

Communication protocol

You can send requests over HTTP or HTTPS. We recommend that you send requests over HTTPS to enhance security.

Request method

You can use the HTTP GET method to send requests. In this case, you must specify request parameters in the URL of the request.

Request parameters

In each request, you must set the Action parameter to specify the operation that you want to perform (such as CreateDatabase). You must also specify the common request parameters and the operation-specific parameters.

Character encoding

All requests and responses are encoded in UTF-8.

4.3. Signatures

authenticates each access request. Therefore, a request must contain signature information regardless of whether it is sent over HTTP or HTTPS. implements symmetric encryption with an AccessKey pair that consists of an AccessKey ID and AccessKey secret to verify the identity of the request sender. The AccessKey ID and AccessKey secret are officially issued by Alibaba Cloud to users. You can request and manage the AccessKey pair on the Alibaba Cloud official website. The AccessKey ID indicates the identity of a user. The AccessKey secret is the key used to encrypt the signature string and verify the signature string on the server. The AccessKey secret must be strictly kept confidential.

Perform the following steps to sign a request:

1. Use request parameters to construct a canonicalized query string.
 - i. Sort all request parameters in alphabetical order of parameter names. These parameters include the common request parameters described in the "Common parameters" topic and the operation-specific parameters. However, the Signature parameter is not included.

 **Notice** If you use the GET method to send a request, the request parameters are included as a part of the request URL. The request parameters follow the question mark (?) in the request URL and are concatenated with ampersands (&).

- ii. Encode the name and value of each request parameter. The parameter names and values must be URL-encoded in UTF-8 based on the following encoding rules:
 - a. Do not encode uppercase letters (A-Z), lowercase letters (a-z), digits (0-9), and characters including the hyphen (-), underscore (_), period (.), and tilde (~).
 - b. Encode other characters into the %XY format. XY is the hexadecimal value of the ASCII code corresponding to a character. For example, a double quotation mark (") is encoded as %22.
 - c. Extended UTF-8 characters are encoded in the %XY%ZA... format.
 - d. Encode a space as %20 instead of a plus sign (+).

 **Notice** Most libraries that support URL encoding, such as java.net.URLEncoder, comply with the Multipurpose Internet Mail Extensions (MIME) encoding rules of "application/x-www-form-urlencoded". If you use this encoding method, replace each plus sign (+) with %20, each asterisk (*) with %2A, and %7E with a tilde (~).

- iii. Use an equal sign (=) to connect the name and value of each URL-encoded request parameter as a key-value pair.
 - iv. Sort the key-value pairs connected by equal signs (=) in alphabetical order and separate them with ampersands (&) to obtain the canonicalized query string.
2. Use the canonicalized query string to construct the string for signature based on the following rules:

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

Parameters:

- HTTPMethod: the HTTP method used to submit the request, such as GET.
 - percentEncode("/"): the encoded value of a forward slash (/) based on the URL encoding rules described in 1.b. The encoded value is %2F.
 - percentEncode(CanonicalizedQueryString): the string encoded by using the canonicalized query string constructed in Step 1. The encoding follows the URL encoding rules described in Step 1.ii.
- 3. Use the preceding string to calculate the hash-based message authentication code (HMAC) value of the signature as defined in RFC 2104.

 **Notice** The key that is used to calculate the signature is the AccessKey secret appended with an ampersand (&) (ASCII: 38). Secure Hash Algorithm 1 (SHA1) is used in the calculation.

- 4. Use Base64 to encode the HMAC value into a string. This encoded string is the signature.
- 5. Add the signature string to the request as the value of the Signature parameter.

 Note

When the signature string is submitted to the server as the final value of the request parameter, the string must be URL-encoded as other parameters based on rules defined in RFC 3986.

For example, the request URL without a signature for the DescribeDBClusters operation is:

```
http://polardb.aliyuncs.com/?Timestamp=2013-06-01T10:33:56Z&Format=XML&AccessKeyId=testid&Action=DescribeDBClusters&SignatureMethod=HMAC-SHA1&RegionId=region1&SignatureNonce=NwDaxvLU6tFE0DVb&Version=2014-08-15&SignatureVersion=1.0
```

The constructed StringToSign string is:

```
GET%2F&AccessKeyId%3Dtestid&Action%3DDescribeDBClusters&Format%3DXML&RegionId%3Dregion1&SignatureMethod%3DHMAC-SHA1&SignatureNonce%3DNwDaxvLU6tFE0DVb&SignatureVersion%3D1.0&TimeStamp%3D2013-06-01T10%253A33%253A56Z&Version%3D2014-08-15
```

Assume that the AccessKey ID is testid and the AccessKey secret is testsecret. Then, the Key used to calculate the HMAC value of the signature is testsecret&. The calculated signature string is `BIPOMlu8LXBeZtLQkJTw6iFvw1E=`.

The following example shows the request URL with the Signature parameter:

```
http://polardb.aliyuncs.com/?Timestamp=2013-06-01T10%3A33%3A56Z&Format=XML&AccessKeyId=testid&Action=DescribeDBClusters&SignatureMethod=HMAC-SHA1&RegionId=region1&SignatureNonce=NwDaxvLU6tFE0DVb&SignatureVersion=1.0&Version=2014-08-15&Signature=BIPOMlu8LXBeZtLQkJTw6iFvw1E%3D
```

5.Regions

5.1. DescribeRegions

Queries the available regions and zones of PolarDB.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeRegions	The operation that you want to perform. Set the value to DescribeRegions .

Response parameters

Parameter	Type	Example	Description
Regions	Array of Region		The list of regions.
Region			
RegionId	String	cn-hangzhou	The ID of the region.
Zones	Array of Zone		The list of zones.
Zone			
VpcEnabled	Boolean	true	Indicates whether virtual private clouds (VPCs) are supported.
ZoneId	String	cn-hangzhou-g	The ID of the zone.
RequestId	String	3F9E6A3B-C13E-4064-A010-18582A*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeRegions
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeRegionsResponse>
  <RequestId>3F9E6A3B-C13E-4064-A010-18582A*****</RequestId>
  <Regions>
    <Region>
      <RegionId>cn-hangzhou</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-hangzhou-h</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-hangzhou-i</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-hangzhou-g</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-shanghai</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-shanghai-e</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-shanghai-f</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-shanghai-j</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-qingdao</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-qingdao-b</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-qingdao-c</ZoneId>
        </Zone>
      </Zones>
    </Region>
  </Regions>
</DescribeRegionsResponse>
```

```

        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-beijing</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-beijing-h</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-beijing-g</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-zhangjiakou</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-zhangjiakou-b</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-zhangjiakou-a</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-huhehaote</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-huhehaote-a</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-shenzhen</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-shenzhen-d</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-shenzhen-e</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-chengdu</RegionId>
      <Zones>

```

```
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-chengdu-b</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>cn-hongkong</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-hongkong-b</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>cn-hongkong-c</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>ap-southeast-1</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>ap-southeast-1c</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>ap-southeast-1a</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>ap-southeast-2</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>ap-southeast-2b</ZoneId>
        </Zone>
      </Zones>
    </Region>
    <Region>
      <RegionId>ap-southeast-3</RegionId>
      <Zones>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>ap-southeast-3b</ZoneId>
        </Zone>
        <Zone>
          <VpcEnabled>true</VpcEnabled>
          <ZoneId>ap-southeast-3a</ZoneId>
        </Zone>
      </Zones>
    </Region>
```

```

<Region>
  <RegionId>ap-southeast-5</RegionId>
  <Zones>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-southeast-5b</ZoneId>
    </Zone>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-southeast-5a</ZoneId>
    </Zone>
  </Zones>
</Region>
<Region>
  <RegionId>ap-northeast-1</RegionId>
  <Zones>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-northeast-1b</ZoneId>
    </Zone>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-northeast-1a</ZoneId>
    </Zone>
  </Zones>
</Region>
<Region>
  <RegionId>ap-south-1</RegionId>
  <Zones>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-south-1b</ZoneId>
    </Zone>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>ap-south-1a</ZoneId>
    </Zone>
  </Zones>
</Region>
<Region>
  <RegionId>eu-central-1</RegionId>
  <Zones>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>eu-central-1b</ZoneId>
    </Zone>
  </Zones>
</Region>
<Region>
  <RegionId>eu-west-1</RegionId>
  <Zones>
    <Zone>
      <VpcEnabled>>true</VpcEnabled>
      <ZoneId>eu-west-1a</ZoneId>
    </Zone>
  </Zones>
</Region>

```

```

        </Zone>
        <Zone>
            <VpcEnabled>true</VpcEnabled>
            <ZoneId>eu-west-1b</ZoneId>
        </Zone>
    </Zones>
</Region>
<Region>
    <RegionId>us-west-1</RegionId>
    <Zones>
        <Zone>
            <VpcEnabled>true</VpcEnabled>
            <ZoneId>us-west-1a</ZoneId>
        </Zone>
    </Zones>
</Region>
<Region>
    <RegionId>us-east-1</RegionId>
    <Zones>
        <Zone>
            <VpcEnabled>true</VpcEnabled>
            <ZoneId>us-east-1b</ZoneId>
        </Zone>
    </Zones>
</Region>
</Regions>
</DescribeRegionsResponse>

```

JSON **format**

```

{
  "RequestId": "3F9E6A3B-C13E-4064-A010-18582A*****",
  "Regions": {
    "Region": [
      {
        "RegionId": "cn-hangzhou",
        "Zones": {
          "Zone": [
            {
              "VpcEnabled": true,
              "ZoneId": "cn-hangzhou-h"
            },
            {
              "VpcEnabled": true,
              "ZoneId": "cn-hangzhou-i"
            },
            {
              "VpcEnabled": true,
              "ZoneId": "cn-hangzhou-g"
            }
          ]
        }
      }
    ]
  },
  {

```

```
"RegionId": "cn-shanghai",
"Zones": {
  "Zone": [
    {
      "VpcEnabled": true,
      "ZoneId": "cn-shanghai-e"
    },
    {
      "VpcEnabled": true,
      "ZoneId": "cn-shanghai-f"
    },
    {
      "VpcEnabled": true,
      "ZoneId": "cn-shanghai-j"
    }
  ]
},
{
  "RegionId": "cn-qingdao",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-qingdao-b"
      },
      {
        "VpcEnabled": true,
        "ZoneId": "cn-qingdao-c"
      }
    ]
  },
{
  "RegionId": "cn-beijing",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-beijing-h"
      },
      {
        "VpcEnabled": true,
        "ZoneId": "cn-beijing-g"
      }
    ]
  },
{
  "RegionId": "cn-zhangjiakou",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
```

```
        "ZoneId": "cn-zhangjiakou-b"
      },
      {
        "VpcEnabled": true,
        "ZoneId": "cn-zhangjiakou-a"
      }
    ]
  }
},
{
  "RegionId": "cn-huhehaote",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-huhehaote-a"
      }
    ]
  }
},
{
  "RegionId": "cn-shenzhen",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-shenzhen-d"
      },
      {
        "VpcEnabled": true,
        "ZoneId": "cn-shenzhen-e"
      }
    ]
  }
},
{
  "RegionId": "cn-chengdu",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-chengdu-b"
      }
    ]
  }
},
{
  "RegionId": "cn-hongkong",
  "Zones": {
    "Zone": [
      {
        "VpcEnabled": true,
        "ZoneId": "cn-hongkong-b"
      }
    ],
```

```

        {
            "VpcEnabled": true,
            "ZoneId": "cn-hongkong-c"
        }
    ]
}
},
{
    "RegionId": "ap-southeast-1",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-1c"
            },
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-1a"
            }
        ]
    }
},
{
    "RegionId": "ap-southeast-2",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-2b"
            }
        ]
    }
},
{
    "RegionId": "ap-southeast-3",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-3b"
            },
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-3a"
            }
        ]
    }
},
{
    "RegionId": "ap-southeast-5",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "ap-southeast-5b"
            }
        ]
    }
}

```

```

        "ZoneId": "ap-southeast-5a"
      }
    ]
  },
  {
    "RegionId": "ap-northeast-1",
    "Zones": {
      "Zone": [
        {
          "VpcEnabled": true,
          "ZoneId": "ap-northeast-1b"
        },
        {
          "VpcEnabled": true,
          "ZoneId": "ap-northeast-1a"
        }
      ]
    }
  },
  {
    "RegionId": "ap-south-1",
    "Zones": {
      "Zone": [
        {
          "VpcEnabled": true,
          "ZoneId": "ap-south-1b"
        },
        {
          "VpcEnabled": true,
          "ZoneId": "ap-south-1a"
        }
      ]
    }
  },
  {
    "RegionId": "eu-central-1",
    "Zones": {
      "Zone": [
        {
          "VpcEnabled": true,
          "ZoneId": "eu-central-1b"
        }
      ]
    }
  },
  {
    "RegionId": "eu-west-1",
    "Zones": {
      "Zone": [

```

```

        "VpcEnabled": true,
        "ZoneId": "eu-west-1a"
    },
    {
        "VpcEnabled": true,
        "ZoneId": "eu-west-1b"
    }
]
},
{
    "RegionId": "us-west-1",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "us-west-1a"
            }
        ]
    }
},
{
    "RegionId": "us-east-1",
    "Zones": {
        "Zone": [
            {
                "VpcEnabled": true,
                "ZoneId": "us-east-1b"
            }
        ]
    }
}
]
}
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.Cluster management

6.1. CreateDBCluster

Creates a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateDBCluster	The operation that you want to perform. Set the value to CreateDBCluster .
DBNodeClass	String	Yes	polar.mysql.x2.medium	The specification of the node. For more information, see Specifications of compute nodes .
DBType	String	Yes	MySQL	The type of the database engine. Valid values: • MySQL • PostgreSQL • Oracle
DBVersion	String	Yes	5.6	The version number of the database engine. Valid values: • MySQL: ◦ 5.6 ◦ 5.7 ◦ 8.0 • PostgreSQL: 11. • Oracle: 11.
PayType	String	Yes	Postpaid	The billing method. Valid values: • Postpaid: the pay-as-you-go billing method. • Prepaid: the subscription billing method.

Parameter	Type	Required	Example	Description
RegionId	String	Yes	cn-hangzhou	The ID of the region.  Note You can call the <code>DescribeRegions</code> operation to query available regions.
ZoneId	String	No	cn-hangzhou-g	The ID of the zone.  Note You can call the <code>DescribeRegions</code> operation to query available zones.
ClusterNetworkType	String	No	VPC	The network type of the cluster. Only virtual private clouds (VPCs) are supported. Set the value to VPC.
DBClusterDescription	String	No	test	The name of the cluster. The name must meet the following requirements: - The name cannot start with <code>http://</code> or <code>https://</code>. - The name must be 2 to 256 characters in length.
AutoRenew	Boolean	No	true	Specifies whether to enable automatic renewal. Valid values: true: Automatic renewal is enabled. false: Automatic renewal is disabled. The default value is false.  Note This parameter takes effect only when PayType is set to Prepaid.

Parameter	Type	Required	Example	Description
Period	String	No	Month	If PayType is set to Prepaid, this parameter is required. This parameter specifies whether the subscription is annual or monthly. • Year: annual subscription. • Month: monthly subscription.
UsedTime	String	No	1	• If Period is set to Month, UsedTime can be set to a value from 1 to 9. • If Period is set to Month, UsedTime can be set to a value from 1 to 3.
VPCId	String	No	vpc-*****	The ID of the VPC.
VSwitchId	String	No	vsw-*****	The ID of the vSwitch.
				The method that is used to create a cluster. Valid values: • Normal: creates a new PolarDB cluster. For more information about how to perform this operation in the console, see the following topics: ◦ Create a ApsaraDB PolarDB MySQL-compatible edition cluster ◦ Create a ApsaraDB PolarDB PostgreSQL-compatible edition cluster ◦ Create a ApsaraDB PolarDB O Edition cluster • CloneFromPolarDB: clones data from an existing PolarDB cluster to a new PolarDB cluster. For more information about how to perform this operation in the console, see the following topics: ◦ Restore data of a ApsaraDB PolarDB MySQL-compatible edition cluster ◦ Restore data of a ApsaraDB PolarDB PostgreSQL-compatible edition cluster ◦ Restore data of a ApsaraDB PolarDB O Edition cluster

Parameter	Type	Required	Example	Description
CreationOption	String	No	Normal	• CloneFromRDS: clones data from an existing ApsaraDB RDS for MySQL instance to a new PolarDB cluster. For more information about how to perform this operation in the console, see Create a ApsaraDB PolarDB MySQL-compatible edition cluster by using the Clone from RDS method. • MigrationFromRDS: migrates data from an existing ApsaraDB RDS for MySQL instance to a new PolarDB cluster. By default, the created PolarDB cluster is in read-only mode, and the binary logging feature is enabled. For more information about how to perform this operation in the console, see Create a ApsaraDB PolarDB MySQL-compatible edition cluster from an ApsaraDB RDS for MySQL instance. • CreateGdnStandby: creates a secondary cluster. For more information about how to perform this operation in the console, see Add a secondary cluster. The default value is Normal.  Note • If DBType is set to MySQL and DBVersion is set to 5.6 or 5.7, this parameter can be set to CloneFromRDS or MigrationFromRDS. • If DBType is set to MySQL and DBVersion is set to 8.0, this parameter can be set to CreateGdnStandby.

Parameter	Type	Required	Example	Description
SourceResourceId	String	No	rm-*****	The ID of the source RDS instance or the ID of the source PolarDB cluster. This parameter is required only when CreationOption is set to MigrationFromRDS, CloneFromRDS, or CloneFromPolarDB. - If CreationOption is set to MigrationFromRDS or CloneFromRDS, you must set this parameter to the ID of the source RDS instance. The source RDS instance is of the ApsaraDB RDS for MySQL 5.6 or 5.7 High-availability Edition, and storage is local SSD. - If CreationOption is set to CloneFromPolarDB, you must set this parameter to the ID of the source PolarDB cluster. By default, the value of DBType of the destination cluster must be the same as that of the source cluster. For example, if a MySQL 8.0 cluster is used as the source cluster, you must set DBType to MySQL and DBVersion to 8.0 for the destination cluster.
CloneDataPoint	String	No	LATEST	The time point of data to be cloned. Valid values: LATEST: The data of the latest point in time is cloned. BackupID: Specify the ID of a backup set. Timestamp: Specify a point in time in the past. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time must be in UTC. The default value is LATEST.  Note If CreationOption is set to CloneFromRDS, the value of this parameter must be LATEST.

Parameter	Type	Required	Example	Description
ClientToken	String	No	6000170000591aed949d0f5***** *****	The client token is used to ensure the idempotence of requests. A client token is generated in the client and is unique for different requests. The value is case-sensitive and can contain a maximum of 64 ASCII characters in length.
ResourceGroupId	String	No	rg-*****	The ID of the resource group.
SecurityIPList	String	No	10.***.***.***	The whitelist of the PolarDB cluster.
TDEStatus	Boolean	No	true	Specifies whether to enable transparent data encryption (TDE). Valid values: - true: enables TDE. - false: disables TDE. This is the default value.  Note - This parameter takes effect only when DBType is set to PostgreSQL or Oracle. - You can call the ModifyDBClusterTDE operation to enable TDE for a PolarDB for MySQL cluster. - TDE cannot be disabled after you enable the feature.
GDNId	String	No	gdn-*****	The ID of the global database network (GDN).  Note This parameter is required if CreationOption is set to CreateGdnStandby.

Parameter	Type	Required	Example	Description
CreationCategory	String	No	Normal	The edition of the PolarDB service. Valid values: Normal: Cluster Edition Basic: Single Node Archive: Archive Database  Note - You can set this parameter to Basic only when DBType is set to MySQL and DBVersion is set to 5.6, 5.7, or 8.0. - You can set this parameter to Archive only when DBType is set to MySQL and DBVersion is set to 8.0. For more information, see Product editions.
DefaultTimeZone	String	No	SYSTEM	The time zone of the cluster. The time must be in UTC. Valid values: - The default value is SYSTEM. By default, the time zone of the cluster is the same as that of the region where the cluster is deployed. - You can set the parameter to a value that is on the hour from -12:00 to +13:00. For example, 00:00.  Note This parameter takes effect only when DBType is set to MySQL.

Parameter	Type	Required	Example	Description
LowerCaseTableNames	String	No	1	Specifies whether the table name is case-sensitive. Valid values: 1: not case-sensitive. 0: case-sensitive. The default value is 1.  Note This parameter takes effect only when DBType is set to MySQL.
BackupRetentionPolicyOnClusterDeletion	String	No	NONE	The retention policy for the backup sets when you delete the cluster. Valid values: ALL: permanently retains all backups. LATEST: permanently retains the last backup. A backup is automatically created before you delete the cluster. NONE: does not retain backup sets after you delete the cluster. The default value is NONE when you create the cluster. The system deletes all backup sets after you delete the cluster.  Note This parameter takes effect only when DBType is set to MySQL.
DBMinorVersion	String	No	8.0.1	The minor version of the database engine. - If <code>DBVersion</code> is set to 8.0, the valid values are: 8.0.2 8.0.1 - If <code>DBVersion</code> is set to 5.7, the value of this parameter is set to 5.7.28. - If <code>DBVersion</code> is set to 5.6, the value of this parameter is set to 5.6.16.

Parameter	Type	Required	Example	Description
ParameterGroupId	String	No	pcpg-*****	The ID of the parameter template.

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the cluster.
OrderId	String	11111111111111	The ID of the order.
RequestId	String	E56531A4-E552-40BA-9C58-137B80*****	The ID of the request.
ResourceGroupId	String	rg-*****	The ID of the resource group.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CreateDBCluster
&DBNodeClass=polar.mysql.x2.medium
&DBType=MySQL
&DBVersion=5.6
&PayType=Postpaid
&RegionId=cn-hangzhou
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateDBClusterResponse>
  <RequestId>E56531A4-E552-40BA-9C58-137B80*****</RequestId>
  <ResourceGroupId>rg-*****</ResourceGroupId>
  <DBClusterId>pc-*****</DBClusterId>
  <OrderId>11111111111111</OrderId>
</CreateDBClusterResponse>
```

JSON format

```
{
  "RequestId": "E56531A4-E552-40BA-9C58-137B80*****",
  "ResourceGroupId": "rg-*****",
  "DBClusterId": "pc-*****",
  "OrderId": 11111111111111
}
```

Error codes

HttpCode	Error code	Error message	Description
400	InvalidBackupRetentionPolicyOnClusterDeletion.Malformed	The specified BackupRetentionPolicyOnClusterDeletion is invalid.	The error message returned because the specified BackupRetentionPolicyOnClusterDeletion parameter is invalid.
400	InvalidLowerCaseTableName.Malformed	The specified LowerCaseTableNames is invalid.	The error message returned because the specified LowerCaseTableNames parameter is invalid.
400	InvalidDefaultTimeZone.Malformed	The specified DefaultTimeZone is invalid.	The error message returned because the specified DefaultTimeZone parameter is invalid.

For a list of error codes, visit the [API Error Center](#).

6.2. DeleteDBCluster

Deletes a pay-as-you-go PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteDBCluster	The operation that you want to perform. Set the value to DeleteDBCluster.
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Parameter	Type	Required	Example	Description
BackupRetentionPolicyOnClusterDeletion	String	No	NONE	The retention policy for the backup sets when you delete the cluster. Valid values: • ALL: permanently retains all the backups. • LATEST: permanently retains the last backup. A backup is automatically created before you delete the cluster. • NONE: retains no backup sets when you delete the cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteDBCluster
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteDBClusterResponse>
  <RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</DeleteDBClusterResponse>
```

JSON format

```
{
  "RequestId": "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.3. DescribeDBClusters

Queries information about all PolarDB clusters or specified PolarDB clusters that you can access.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DescribeDBClusters	The operation that you want to perform. Set the value to DescribeDBClusters .
RegionId	String	Yes	cn-hangzhou	The region ID of the cluster.  Note You can call the DescribeRegions operation to query information about regions.
DBClusterIds	String	No	pc-*****	The IDs of the clusters. Separate cluster IDs with commas (,).
DBClusterDescription	String	No	pc-*****	The description of clusters. You can specify keywords to implement fuzzy match.
DBClusterStatus	String	No	Running	The state of the clusters that you want to query. For information about valid values, see Cluster status .
DBType	String	No	MySQL	The database engine that databases in the clusters run. Valid values: - MySQL - PostgreSQL - Oracle
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30, 50, or 100. Default value: 30.

Parameter	Type	Required	Example	Description
PageNumber	Integer	No	10	The number of the page to return. The value of this parameter must be an integer that is greater than 0. Default value: 1.
ResourceGroupId	String	No	rg-*****	The ID of the resource group.
PayType	String	No	Postpaid	The billing method. Valid values: Postpaid: pay-as-you-go Prepaid: subscription
DBNodeIds	String	No	pi-*****	The ID of the node. You can specify multiple node IDs. Separate multiple node IDs with commas (,).
Tag.N.Key	String	No	MySQL	The keys of the tags. You can use tags to filter clusters. You can specify up to 20 tags. N specifies the serial number of each tag. The values that you specify for N must be unique and be consecutive integers that start from 1. The values of the Tag.N.Key parameter and the values of the Tag.N.Value parameter must be from the same key-value pairs.  Note The value of this parameter can be up to 64 characters in length and cannot start with <code>aliyun</code>, <code>acs:</code>, <code>http://</code>, or <code>https://</code>.
Tag.N.Value	String	No	5.6	The values of the tags.  Note The value of this parameter can be up to 64 characters in length and cannot start with <code>aliyun</code>, <code>acs:</code>, <code>http://</code>, or <code>https://</code>.

Response parameters

Parameter	Type	Example	Description
TotalRecordCount	Integer	16	The total number of entries.
PageRecordCount	Integer	5	The number of clusters returned per page.
RequestId	String	9B7BFB11-C077-4FE3-B051-F69CEB*****	The ID of the request.
PageNumber	Integer	12	The number of returned pages.
Items	Array of DBCluster		Details about the returned clusters.
DBCluster			
VpcId	String	vpc-*****	The ID of the virtual private cloud (VPC).
ExpireTime	String	2020-11-14T16:00:00Z	The time when the cluster expires.  Note Expiration time is returned only for clusters that use the subscription billing method. An empty string is returned for clusters that use the pay-as-you-go billing method.
Expired	String	false	Indicates whether the cluster has expired. Valid values:  Note This parameter is returned only for clusters that use the subscription billing method.
DBNodeNumber	Integer	2	The number of nodes.
CreateTime	String	2020-08-14T05:58:42Z	The time when the cluster was created.
PayType	String	Prepaid	The billing method. Valid values: Postpaid: pay-as-you-go Prepaid: the subscription billing method

Parameter	Type	Example	Description
DBNodeClass	String	polar.mysql.x4.large	The instance type of the node.
Tags	Array of Tag		Details about the returned tags.
Tag			
Key	String	MySQL	The key of the tag.
Value	String	5.6	The value of the tag.
DBType	String	MySQL	The database engine that databases in the clusters run.
LockMode	String	Unlock	The state of the cluster lock. Valid values: • Unlock: The instance is not locked. • ManualLock: The cluster is manually locked. • LockByExpiration: The cluster is automatically locked because the cluster has expired.
DBNodes	Array of DBNode		Details about nodes.
DBNode			
DBNodeClass	String	polar.mysql.x4.large	The instance type of the node.
Zoneld	String	cn-hangzhou-i	The ID of the zone.
DBNodeRole	String	Reader	The role of the node. Valid values: • Writer: The node is the primary node. • Reader: The node is a read-only node.
DBNodeid	String	pi-*****	The ID of the node.
RegionId	String	cn-hangzhou	The region ID of the cluster.
RegionId	String	cn-hangzhou	The region ID of the cluster.

Parameter	Type	Example	Description
DeletionLock	Integer	0	The protection state of the cluster. Valid values: 0: The cluster is not locked. 1: The cluster is locked.  Note You cannot delete the cluster if the cluster is locked.
DBVersion	String	5.6	The version of the database engine that databases in the clusters run.
DBClusterId	String	pc-*****	The IDs of the clusters.
DBClusterStatus	String	Running	The status of the cluster.
ResourceGroupId	String	rg-*****	The ID of the resource group.
StorageUsed	Long	3009413120	The storage space used by the cluster.
DBClusterNetworkType	String	VPC	The network type of the cluster.
DBClusterDescription	String	GDN-1	The description of the cluster.
ZoneId	String	cn-hangzhou-i	The ID of the zone.
Engine	String	POLARDB	The database engine that databases in the cluster run.
Category	String	Normal	The edition of the cluster. Valid values: Normal: Cluster Edition Basic: Single Node Archive: Archive Database

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribeDBClusters
&RegionId=cn-hangzhou
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<DescribeDBClustersResponse>
  <TotalRecordCount>16</TotalRecordCount>
  <PageRecordCount>5</PageRecordCount>
  <RequestId>9B7BFB11-C077-4FE3-B051-F69CEB*****</RequestId>
  <PageNumber>12</PageNumber>
  <Items>
    <VpcId>vpc-*****</VpcId>
    <ExpireTime>2020-11-14T16:00:00Z</ExpireTime>
    <Expired>false</Expired>
    <DBNodeNumber>2</DBNodeNumber>
    <CreateTime>2020-08-14T05:58:42Z</CreateTime>
    <PayType>Prepaid</PayType>
    <DBNodeClass>polar.mysql.x4.large</DBNodeClass>
    <Tags>
      <Key>MySQL</Key>
      <Value>5.6</Value>
    </Tags>
    <DBType>MySQL</DBType>
    <LockMode>Unlock</LockMode>
    <DBNodes>
      <DBNodeClass>polar.mysql.x4.large</DBNodeClass>
      <ZoneId>cn-hangzhou-i</ZoneId>
      <DBNodeRole>Reader</DBNodeRole>
      <DBNodeId>pi-*****</DBNodeId>
      <RegionId>cn-hangzhou</RegionId>
    </DBNodes>
    <RegionId>cn-hangzhou</RegionId>
    <DeletionLock>0</DeletionLock>
    <DBVersion>5.6</DBVersion>
    <DBClusterId>pc-*****</DBClusterId>
    <DBClusterStatus>Running</DBClusterStatus>
    <ResourceGroupId>rg-*****</ResourceGroupId>
    <StorageUsed>3009413120</StorageUsed>
    <DBClusterNetworkType>VPC</DBClusterNetworkType>
    <DBClusterDescription>GDN-1</DBClusterDescription>
    <ZoneId>cn-hangzhou-i</ZoneId>
    <Engine>POLARDB</Engine>
    <Category>Normal</Category>
  </Items>
</DescribeDBClustersResponse>
```

JSON format

```

HTTP/1.1 200 OK
Content-Type:application/json
{
  "TotalRecordCount" : 16,
  "PageRecordCount" : 5,
  "RequestId" : "9B7BFB11-C077-4FE3-B051-F69CEB*****",
  "PageNumber" : 12,
  "Items" : [ {
    "VpcId" : "vpc-*****",
    "ExpireTime" : "2020-11-14T16:00:00Z",
    "Expired" : "false",
    "DBNodeNumber" : 2,
    "CreateTime" : "2020-08-14T05:58:42Z",
    "PayType" : "Prepaid",
    "DBNodeClass" : "polar.mysql.x4.large",
    "Tags" : [ {
      "Key" : "MySQL",
      "Value" : "5.6"
    } ],
    "DBType" : "MySQL",
    "LockMode" : "Unlock",
    "DBNodes" : [ {
      "DBNodeClass" : "polar.mysql.x4.large",
      "ZoneId" : "cn-hangzhou-i",
      "DBNodeRole" : "Reader",
      "DBNodeId" : "pi-*****",
      "RegionId" : "cn-hangzhou"
    } ],
    "RegionId" : "cn-hangzhou",
    "DeletionLock" : 0,
    "DBVersion" : "5.6",
    "DBClusterId" : "pc-*****",
    "DBClusterStatus" : "Running",
    "ResourceGroupId" : "rg-*****",
    "StorageUsed" : 3009413120,
    "DBClusterNetworkType" : "VPC",
    "DBClusterDescription" : "GDN-1",
    "ZoneId" : "cn-hangzhou-i",
    "Engine" : "POLARDB",
    "Category" : "Normal"
  } ]
}

```

Error codes

HttpCode	Error codes	Error message	Description
500	InternalServerError	The request processing has failed due to some unknown error, exception or failure.	The error message returned because an internal error has occurred.

HttpCode	Error codes	Error message	Description
503	ServiceUnavailable	The request has failed due to a temporary failure of the server.	The error message returned because a temporary server failure has occurred.

For a list of error codes, visit the [API Error Center](#).

6.4. DescribeDBClusterAttribute

Queries the detailed attributes of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterAttribute	The operation that you want to perform. Set the value to DescribeDBClusterAttribute .
DBClusterId	String	Yes	pc- *****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query the details of all clusters that belong to your account, such as the cluster ID.

Response parameters

Parameter	Type	Example	Description
-----------	------	---------	-------------

Parameter	Type	Example	Description
Category	String	Normal	The edition of the PolarDB service. Valid values: • Normal: Cluster Edition • Basic: Single Node • Archive: Archive Database  Note • You can set this parameter to Single Node for only the clusters of ApsaraDB PolarDB MySQL-compatible edition 5.6, 5.7, and 8.0. • You can set this parameter to Archive Database for only the clusters of ApsaraDB PolarDB MySQL-compatible edition 8.0.
CreationTime	String	2020-08-14T05:58:42Z	The time when the cluster was created.
DBClusterDescription	String	test	The description of the cluster.
DBClusterId	String	pc-*****	The ID of the cluster.
DBClusterNetworkType	String	VPC	The network type of the cluster.

Parameter	Type	Example	Description
DBClusterStatus	String	Running	The status of the cluster. Valid values: - Creating: The cluster is being created. - Running: The cluster is running. - Deleting: The cluster is being released. - Rebooting: The cluster is restarting. - DBNodeCreating: The node is being added. - DBNodeDeleting: The node is being deleted. - ClassChanging: The node specification is being changed. - NetAddressCreating: The network connection is being created. - NetAddressDeleting: The network connection is being deleted. - NetAddressModifying: The network connection is being modified. - Deleted: The cluster has been released.
DBNodes	Array of DBNode		The details of the node.
CreationTime	String	2020-03-23T21:35:43Z	The time when the node was created.
DBNodeClass	String	polar.mysql.x4.large	The specification of the node.
DBNodeId	String	pi-*****	The ID of the node.
DBNodeRole	String	Reader	The role of the node. Valid values: - Writer: primary node - Reader: read-only node

Parameter	Type	Example	Description
DBNodeStatus	String	Running	The status of the node. Valid values: - Creating: The node is being created. - Running: The node is running. - Deleting: The node is being deleted. - Rebooting: The node is restarting. - DBNodeCreating: The node is being added. - DBNodeDeleting: The node is being deleted. - ClassChanging: The node specification is being changed. - NetAddressCreating: The network connection is being created. - NetAddressDeleting: The network connection is being deleted. - NetAddressModifying: The network connection is being modified. - MinorVersionUpgrading: The minor version is being upgraded. - Maintaining: The instance is being maintained. - Switching: A failover is in progress.
FailoverPriority	Integer	1	The failover priority. Each node has a failover priority. This priority determines the probability at which a node is elected as a primary node if a failover occurs. A larger value indicates a higher priority. Valid values: 1 to 15.
MaxConnections	Integer	8000	The maximum number of concurrent connections in the cluster.
MaxIOPS	Integer	32000	The maximum number of input/output operations per second (IOPS).
Zoneld	String	cn-hangzhou-i	The ID of the zone.
DBType	String	MySQL	The type of the database engine.
DBVersion	String	8.0	The version number of the database engine.

Parameter	Type	Example	Description
DBVersionStatus	String	Stable	The status of the minor version. Valid values: • Stable: The current version is stable. • Old: The current version is outdated. We recommend that you upgrade the cluster to the latest version. • HighRisk: The current version has critical defects. We recommend that you immediately upgrade the cluster to the latest version.  Note For more information about how to upgrade the minor version, see Upgrade versions.
DataLevel1BackupChainSize	Long	74448896	The total physical storage of level-1 backups (snapshots). Unit: bytes.
DeletionLock	Integer	0	Indicates whether the cluster is locked and can be deleted. Valid values: • 0: The cluster is not locked and can be deleted. • 1: The cluster is locked and cannot be deleted.
Engine	String	POLARDB	The engine of the cluster.
ExpireTime	String	2020-11-14T16:00:00Z	The time when the cluster expires.  Note This parameter is returned for only the subscription clusters that use the Prepaid billing method. An empty value is returned for pay-as-you-go clusters that use the Postpaid billing method.
Expired	String	false	Indicates whether the cluster has expired.  Note This parameter is returned for only subscription clusters whose billing method is set to Prepaid.

Parameter	Type	Example	Description
IsLatestVersion	Boolean	false	Indicates whether the kernel is of the latest version.
LockMode	String	Unlock	The lock mode. Valid values: • Unlock: The cluster is not locked. • ManualLock: The cluster is manually locked. • LockByExpiration: The cluster is automatically locked after the cluster expires.
MaintainTime	String	18:00Z-19:00Z	The maintenance window of the cluster. The format is <code>HH:mmZ-HH:mmZ</code> . The time is displayed in UTC. For example, the value <code>16:00Z-17:00Z</code> indicates that the cluster can be maintained from 00:00 to 01:00 (UTC+08:00).
PayType	String	Prepaid	The billing method of the instance. Valid values: • Postpaid: the pay-as-you-go billing method. • Prepaid: the subscription billing method.
RegionId	String	cn-hangzhou	The ID of the region.
RequestId	String	074467EF-86B9-4C23-ACBF-E9B81A*****	The ID of the request.
ResourceGroupId	String	rg-*****	The ID of the resource group.
SQLSize	Long	0	The storage of SQL. Unit: bytes. If the value is -1, no data is stored.
StorageMax	Long	10995116277760	The maximum storage capacity of the current cluster specification. Unit: bytes.
StorageUsed	Long	3012558848	The used storage space. Unit: bytes.

Parameter	Type	Example	Description
SubCategory	String	Exclusive	The specification type of the compute node. Valid values: Exclusive: dedicated specifications. General: general-purpose specifications.  Note This parameter is returned for only ApsaraDB PolarDB MySQL-compatible edition clusters of Cluster Edition.
Tags	Array of Tag		The details of the tag.
Key	String	test	The key of the tag.
Value	String	MySQL	The value of the tag.
VPCId	String	vpc- *****	The ID of the VPC.
VSwitchId	String	vsw- *****	The ID of the vSwitch.
Zonelds	String	cn-hangzhou-i,cn-hangzhou-g	The ID of the zone.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterAttribute
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClusterAttributeResponse>
  <DeletionLock>0</DeletionLock>
  <Category>Normal</Category>
  <ResourceGroupId>rg-*****</ResourceGroupId>
  <DataLevel1BackupChainSize>74448896</DataLevel1BackupChainSize>
  <DBClusterId>pc-*****</DBClusterId>
  <DBClusterNetworkType>VPC</DBClusterNetworkType>
  <DBType>MySQL</DBType>
  <IsLatestVersion>false</IsLatestVersion>
  <DBVersion>5.6</DBVersion>
```

```

<StorageMax>10995116277760</StorageMax>
<DBNodes>
  <DBNodeStatus>Running</DBNodeStatus>
  <ZoneId>cn-hangzhou-i</ZoneId>
  <MaxConnections>8000</MaxConnections>
  <DBNodeRole>Writer</DBNodeRole>
  <CreationTime>2020-08-14T05:58:42Z</CreationTime>
  <DBNodeId>pi-*****</DBNodeId>
  <FailoverPriority>1</FailoverPriority>
  <DBNodeClass>polar.mysql.x4.large</DBNodeClass>
  <MaxIOPS>32000</MaxIOPS>
</DBNodes>
<DBNodes>
  <DBNodeStatus>Running</DBNodeStatus>
  <ZoneId>cn-hangzhou-i</ZoneId>
  <MaxConnections>8000</MaxConnections>
  <DBNodeRole>Reader</DBNodeRole>
  <CreationTime>2020-08-14T05:58:42Z</CreationTime>
  <DBNodeId>pi-*****</DBNodeId>
  <FailoverPriority>1</FailoverPriority>
  <DBNodeClass>polar.mysql.x4.large</DBNodeClass>
  <MaxIOPS>32000</MaxIOPS>
</DBNodes>
<ZoneIds>cn-hangzhou-i,cn-hangzhou-g</ZoneIds>
<MaintainTime>18:00Z-19:00Z</MaintainTime>
<Engine>POLARDB</Engine>
<Tags>
  <Value>MySQL</Value>
  <Key>test</Key>
</Tags>
<RequestId>074467EF-86B9-4C23-ACBF-E9B81AA*****</RequestId>
<VPCId>vpc-*****</VPCId>
<DBClusterStatus>Running</DBClusterStatus>
<VSwitchId>vsw-*****</VSwitchId>
<DBClusterDescription>test</DBClusterDescription>
<Expired>>false</Expired>
<PayType>Prepaid</PayType>
<LockMode>Unlock</LockMode>
<StorageUsed>3012558848</StorageUsed>
<DBVersionStatus>Stable</DBVersionStatus>
<SubCategory>Exclusive</SubCategory>
<CreationTime>2020-08-14T05:58:42Z</CreationTime>
<RegionId>cn-hangzhou</RegionId>
<SQLSize>0</SQLSize>
<ExpireTime>2020-11-14T16:00:00Z</ExpireTime>
</DescribeDBClusterAttributeResponse>

```

JSON format

```

{
  "DeletionLock": 0,
  "Category": "Normal",
  "ResourceGroupId": "rg-*****",
  "DataT...

```

```

    "DataLevelBackupChainSize": 14448896,
    "DBClusterId": "pc-*****",
    "DBClusterNetworkType": "VPC",
    "DBType": "MySQL",
    "IsLatestVersion": false,
    "DBVersion": 5.6,
    "StorageMax": 10995116277760,
    "DBNodes": [
      {
        "DBNodeStatus": "Running",
        "ZoneId": "cn-hangzhou-i",
        "MaxConnections": 8000,
        "DBNodeRole": "Writer",
        "CreationTime": "2020-08-14T05:58:42Z",
        "DBNodeId": "pi-*****",
        "FailoverPriority": 1,
        "DBNodeClass": "polar.mysql.x4.large",
        "MaxIOPS": 32000
      },
      {
        "DBNodeStatus": "Running",
        "ZoneId": "cn-hangzhou-i",
        "MaxConnections": 8000,
        "DBNodeRole": "Reader",
        "CreationTime": "2020-08-14T05:58:42Z",
        "DBNodeId": "pi-*****",
        "FailoverPriority": 1,
        "DBNodeClass": "polar.mysql.x4.large",
        "MaxIOPS": 32000
      }
    ],
    "ZoneIds": "cn-hangzhou-i,cn-hangzhou-g",
    "MaintainTime": "18:00Z-19:00Z",
    "Engine": "POLARDB",
    "Tags": {
      "Value": "MySQL",
      "Key": "test"
    },
    "RequestId": "074467EF-86B9-4C23-ACBF-E9B81AA*****",
    "VPCId": "vpc-*****",
    "DBClusterStatus": "Running",
    "VSwitchId": "vsw-*****",
    "DBClusterDescription": "test",
    "Expired": false,
    "PayType": "Prepaid",
    "LockMode": "Unlock",
    "StorageUsed": 3012558848,
    "DBVersionStatus": "Stable",
    "SubCategory": "Exclusive",
    "CreationTime": "2020-08-14T05:58:42Z",
    "RegionId": "cn-hangzhou",
    "SQLSize": 0,
    "ExpireTime": "2020-11-14T16:00:00Z"
  }
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.5. DescribeTasks

Queries further details of the tasks that are generated based on API operations. For example, you can call this operation to view the details of the task when you create a cluster.

- You can call this operation to view the details of a task that is generated by a specific API operation or in the console. The system calls the specific API operation when you perform an operation in the console. For example, you can view the details of the task when you call the [CreateDBCluster](#) operation or [create a cluster](#) in the console.
- You can view the details of tasks that are generated only when you call the [CreateDBCluster](#) operation to create a cluster and `CreationOption` is not set to `CreateGdnStandby`.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeTasks	The operation that you want to perform. Set the value to DescribeTasks .
EndTime	String	Yes	2020-12-02T03:00Z	The end of the time range to query. Specify the time in the ISO 8601 standard in the yyyy-MM-ddTHH:mmZ format. The time must be in UTC. The end time must be later than the start time.
StartTime	String	Yes	2020-11-30T00:00Z	The beginning of the time range to query. Specify the time in the ISO 8601 standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.
DBClusterId	String	No	pc-*****	The ID of the cluster.  Note You must specify <code>DBNodeId</code> or <code>DBClusterId</code>.

Parameter	Type	Required	Example	Description
DBNodeId	String	No	pi-*****	The ID of the node.  Note You must specify <code>DBNodeId</code> or <code>DBClusterId</code>.
Status	String	No	Running	The status of the task. Valid values: • Waiting: The task is pending. • Running: The task is running. • Finished: The task is completed. • Closed: The task is closed. • Pause: The task is paused. • Stop: The task is interrupted.  Note If you do not specify this parameter, the operation returns the details of only the tasks that are in the Waiting or Running state for the cluster or node.
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30, 50, and 100. Default value: 30.
PageNumber	Integer	No	1	The page number. The value must be an integer that is greater than 0. Default value: 1.

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the cluster for which the task was created.
EndTime	String	2020-12-02T03:00Z	The end of the time range for the query.
PageNumber	Integer	1	The page number of the returned page.

Parameter	Type	Example	Description
PageRecordCount	Integer	30	The number of entries returned per page.
RequestId	String	4352AD99-9FF5-41A6-A319-068089*****	The ID of the request.
StartTime	String	2020-11-30T00:00Z	The beginning of the time range for the query.
Tasks	Array of Task		The task details.
Task			
BeginTime	String	2020-12-02T02:39:15Z	The time when the task was started. The time follows the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time is displayed in UTC.
CurrentStepName	String	create_instance	The name of the current step.
DBName	String	test	The name of the database. Note This parameter is returned for only the tasks that involve database operations.
ExpectedFinishTime	String	null	The estimated end time. In most cases, this parameter is empty.
FinishTime	String	2020-12-02T02:40:15Z	The time when the task was completed. The time follows the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time is displayed in UTC.
Progress	Integer	100	The progress of the task in percentage.
ProgressInfo	String	null	The description about the task progress. If no progress description is provided for the task, this parameter is empty.

Parameter	Type	Example	Description
Remain	Integer	1767	The estimated remaining time of the task. Unit: seconds.
StepProgressInfo	String	1/4	The progress of the subtasks. For example, a value of <code>1/4</code> indicates that the task consists of four subtasks and the first subtask is in progress.
StepsInfo	String	[{"remain":0,"name":"init_task","progress":100}, {"remain":1764,"name":"create_instance","progress":0}, {"remain":1,"name":"init_cluster","progress":0}, {"remain":2,"name":"create_backup","progress":0}]	The details of the subtasks.
TaskAction	String	CreateDBInstance	The API operation that is used by the task, such as <code>CreateDBInstance</code> .
TaskErrorCode	String	null	The error code that is returned when an error occurs. Note This parameter is returned only when the task is in the Stop state.
TaskErrorMessage	String	null	The error message that is returned when an error occurs. Note This parameter is returned only when the task is in the Stop state.
TaskId	String	111111111	The ID of the task.
TotalRecordCount	Integer	1	The total number of entries.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeTasks
&EndTime=2020-11-30T00:00Z
&StartTime=2020-12-01T10:00Z
&<Common request parameters>
```

Sample success responses

XML **format**

```
<DescribeTasksResponse>
  <TotalRecordCount>1</TotalRecordCount>
  <PageRecordCount>30</PageRecordCount>
  <Tasks>
    <Task>
      <StepProgressInfo>1/4</StepProgressInfo>
      <Progress>25</Progress>
      <TaskId>111111111</TaskId>
      <Remain>1767</Remain>
      <FinishTime>2020-12-02T02:40:15Z</FinishTime>
      <TaskAction>CreateDBInstance</TaskAction>
      <StepsInfo>[{"remain":0,"name":"init_task","progress":100}, {"remain":1764,"name":"create_instance","progress":0}, {"remain":1,"name":"init_cluster","progress":0}, {"remain":2,"name":"create_backup","progress":0}]</StepsInfo>
      <CurrentStepName>create_instance</CurrentStepName>
      <BeginTime>2020-12-02T02:39:15Z</BeginTime>
    </Task>
  </Tasks>
  <RequestId>45CE02A1-1766-42E3-9E5F-24B576*****</RequestId>
  <EndTime>2020-12-02T03:00Z</EndTime>
  <PageNumber>1</PageNumber>
  <StartTime>2020-11-30T00:00Z</StartTime>
  <DBClusterId>pc-*****</DBClusterId>
</DescribeTasksResponse>
```

JSON **format**

```
{
  "TotalRecordCount": 1,
  "PageRecordCount": 30,
  "Tasks": {
    "Task": [
      {
        "StepProgressInfo": "1/4",
        "Progress": 25,
        "TaskId": "111111111",
        "Remain": 1767,
        "FinishTime": "2020-12-02T02:40:15Z",
        "TaskAction": "CreateDBInstance",
        "StepsInfo": "[{\"remain\":0,\"name\":\"init_task\",\"progress\":100},{\"remain\":1764,\"name\":\"create_instance\",\"progress\":0},{\"remain\":1,\"name\":\"init_cluster\",\"progress\":0},{\"remain\":2,\"name\":\"create_backup\",\"progress\":0}]",
        "CurrentStepName": "create_instance",
        "BeginTime": "2020-12-02T02:39:15Z"
      }
    ]
  },
  "RequestId": "45CE02A1-1766-42E3-9E5F-24B576*****",
  "EndTime": "2020-12-02T03:00Z",
  "PageNumber": 1,
  "StartTime": "2020-11-30T00:00Z",
  "DBClusterId": "pc-*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.6. ModifyDBClusterDescription

Modifies the name of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterDescription	The operation that you want to perform. Set the value to ModifyDBClusterDescription .

Parameter	Type	Required	Example	Description
DBClusterDescription	String	Yes	ClusterDescriptionTest	The name of the cluster. The name must meet the following requirements: - The name cannot start with <code>http://</code> or <code>https://</code>. - The name must be 2 to 256 characters in length.
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBClusterDescription
&DBClusterDescription=ClusterDescriptionTest
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBClusterDescriptionResponse>
  <RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</ModifyDBClusterDescriptionResponse>
```

JSON format

```
{
  "RequestId": "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.7. ModifyDBClusterMaintainTime

Changes the routine maintenance window of a specified PolarDB cluster.

 **Note** We recommend that you set the routine maintenance window to off-peak hours. Alibaba Cloud maintains your cluster within the specified maintenance window to minimize the negative impacts on your business.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Position	Type	Required	Example	Description
Action	Query	String	No	ModifyDBClusterMaintainTime	The operation that you want to perform. Set the value to ModifyDBClusterMaintainTime .
DBClusterId	Query	String	Yes	pc-*****	The ID of the PolarDB cluster.
MaintainTime	Query	String	Yes	02:00Z-03:00Z	The maintenance window of the cluster. The format is <code>HH:mmZ-HH:mmZ</code>. For example, a value of <code>16:00Z-17:00Z</code> indicates that the routine maintenance can be performed on the cluster from 00:00 to 01:00 (UTC+08:00).  Note The maintenance window must start on the hour and last for an hour.

Response parameters

Parameter	Type	Example	Description
RequestId	String	70656639-1416-479F-AF13-D08197*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBClusterMaintainTime
&DBClusterId=pc-*****
&MaintainTime=02:00Z-03:00Z
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBClusterMaintainTimeResponse>
  <RequestId>70656639-1416-479F-AF13-D08197*****</RequestId>
</ModifyDBClusterMaintainTimeResponse>
```

JSON format

```
{
  "RequestId": "70656639-1416-479F-AF13-D08197*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.8. Deployment architecture

6.8.1. FailoverDBCluster

Performs a failover between the primary node and a read-only node in a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	FailoverDBCluster	The operation that you want to perform. Set the value to FailoverDBCluster .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Parameter	Type	Required	Example	Description
TargetDBNodeId	String	No	pi-*****	The ID of the read-only node that serves as the new primary node. If you leave this parameter empty, the system automatically selects a read-only node. You can call the DescribeDBClusters operation to query node information, such as node IDs.  Note • If you leave this parameter empty, the system selects one or more nodes that have the highest priority from all the available read-only nodes. If the failover to the first read-only node fails due to network issues, abnormal replication status, or other reasons, the system tries to switch to another read-only node until the failover succeeds. • If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL-compatible edition, this parameter is required. If the database engine of the PolarDB cluster is the ApsaraDB PolarDB MySQL-compatible edition, this parameter is optional.

Parameter	Type	Required	Example	Description
ClientToken	String	No	6000170000591aed949d0f54a343f1a4233c1e7d1c5* *****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. The token can only contain ASCII characters and cannot exceed 64 characters in length. The token is case-sensitive.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=FailoverDBCluster
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<FailoverDBClusterResponse>
<RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</FailoverDBClusterResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.8.2. ModifyDBClusterPrimaryZone

Changes the primary zone of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterPrimaryZone	The operation that you want to perform. Set the value to ModifyDBClusterPrimaryZone .
DBClusterId	String	Yes	pc-*****	The ID of the cluster for which you want to change the primary zone.
ZoneId	String	Yes	cn-hangzhou-g	The ID of the destination primary zone.  Note You can call the DescribeRegions operation to query available zones.

Parameter	Type	Required	Example	Description
VSwitchId	String	No	vsw-*****	The ID of the vSwitch in the destination zone.  Note • This parameter is required if your cluster is a PolarDB for Oracle cluster or a PolarDB for PostgreSQL cluster. • If your cluster is a PolarDB for PostgreSQL cluster: ◦ this parameter is optional if no vSwitches have been created in the destination zone. The default vSwitch is used. ◦ this parameter is required if a vSwitch has been created in the destination zone.

Response parameters

Parameter	Type	Sample response	Description
RequestId	String	ED12C6FF-3261-4571-AB57-3570F6*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=ModifyDBClusterPrimaryZone
&DBClusterId=pc-*****
&ZoneId=cn-hangzhou-g
&<Common request parameters>
```

Sample success responses

 format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<ModifyDBClusterPrimaryZoneResponse>
<RequestId>ED12C6FF-3261-4571-AB57-3570F6*****</RequestId>
</ModifyDBClusterPrimaryZoneResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "ED12C6FF-3261-4571-AB57-3570F6*****"
}
```

Error codes

HttpCode	Error code	Error message	Description
400	ScheduleTaskExist	The specified cluster already has a scheduled task.	The error code returned because a different task is scheduled to run on the specified cluster.

For a list of error codes, visit the [API Error Center](#).

6.9. Renewal management

6.9.1. ModifyAutoRenewAttribute

Modifies auto-renewal parameters for a subscription PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Position	Type	Required	Example	Description
Action	Query	String	No	ModifyAutoRenewAttribute	The operation that you want to perform. Set the value to ModifyAutoRenewAttribute .
DBClusterIds	Query	String	Yes	pc-*****	The ID of the PolarDB cluster.

Parameter	Position	Type	Required	Example	Description
RegionId	Query	String	Yes	cn-hangzhou	The ID of the region. It must be 1 to 50 characters in length.  Note You can call the DescribeRegions operation to query available regions.
RenewalStatus	Query	String	No	AutoRenewal	Specifies the auto-renewal status of the cluster. Valid values: AutoRenewal: The cluster is automatically renewed. Normal: The cluster is manually renewed. NotRenewal: The cluster is not renewed. Default value: AutoRenewal  Note If this parameter is set to NotRenewal, the system does not send a reminder of expiration, but only sends a reminder three days before the cluster expires to remind you that the cluster is not renewed.
Duration	Query	String	No	1	Specifies the automatic renewal period. - When the PeriodUnit parameter is set to Month, the value of this parameter is [1, 2, 3, 6, 12] . - When the PeriodUnit parameter is set to Year, the value of this parameter is [1-3] . Default value: 1.

Parameter	Position	Type	Required	Example	Description
PeriodUnit	Query	String	No	Month	The unit of the renewal period. Valid values: • Year • Month Default value: Month .
ResourceGroupId	Query	String	No	rg-*****	The ID of the resource group.

Response parameters

Parameter	Type	Example	Description
RequestId	String	4CE6DF97-AEA4-484F-906F-C407EE*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyAutoRenewAttribute
&DBClusterIds=pc-*****
&RegionId=cn-hangzhou
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyAutoRenewAttributeResponse>
  <RequestId>4CE6DF97-AEA4-484F-906F-C407EE*****</RequestId>
</ModifyAutoRenewAttributeResponse>
```

JSON format

```
{
  "ModifyAutoRenewAttributeResponse": {
    "RequestId": "4CE6DF97-AEA4-484F-906F-C407EE*****"
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.9.2. DescribeAutoRenewAttribute

Queries the auto-renewal status of subscription PolarDB clusters.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeAutoRenewAttribute	The operation that you want to perform. Set the value to DescribeAutoRenewAttribute .
RegionId	String	Yes	cn-hangzhou	The ID of the region. It must be up to 50 characters in length. You can call the DescribeRegions operation to query the most recent region list.
DBClusterIds	String	No	pc-*****	The ID of the cluster. Separate multiple cluster IDs with commas (,).
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30, 50, and 100. Default value: 30.
PageNumber	Integer	No	1	The number of the page to return. Valid values: 1 to 2147483647. Default value: 1.
ResourceGroupId	String	No	rg-re*****	The ID of the resource group.

Response parameters

Parameter	Type	Example	Description
Items	Array		The renewal information of the clusters.
AutoRenewAttribute			
AutoRenewEnabled	Boolean	true	Indicates whether the auto-renewal feature is enabled. Valid values: - true: enabled - false: disabled
DBClusterId	String	pc-xxxxxxxxxxxxxxxx	The ID of the cluster.

Parameter	Type	Example	Description
Duration	Integer	1	The renewal duration of the subscription cluster.
PeriodUnit	String	Month	The unit of the renewal duration. Valid values: - Year - Month
RegionId	String	cn-hangzhou	The region ID of the instance.
RenewalStatus	String	AutoRenewal	The renewal status of the cluster. Valid values: - AutoRenewal: The cluster is automatically renewed. - Normal: The cluster is manually renewed. The system sends an SMS message to remind you before the cluster expires. - NotRenewal: The cluster is not renewed. The system does not send a reminder for expiration but only sends an SMS message three days before the cluster expires to remind you that the cluster is not renewed.
PageNumber	Integer	1	The page number of the returned page.
PageRecordCount	Integer	1	The total number of pages returned.
RequestId	String	8ABD1FF2-85B1-4D03-8C99-FB603B*****	The ID of the request.
TotalRecordCount	Integer	1	The total number of entries returned.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeAutoRenewAttribute
&RegionId=cn-hangzhou
&<Common request parameters>
```

Sample success responses

`XML` format

```

<Items>
  <AutoRenewAttribute>
    <RenewalStatus>AutoRenewal</RenewalStatus>
    <Duration>1</Duration>
    <RegionId>cn-hangzhou</RegionId>
    <AutoRenewEnabled>true</AutoRenewEnabled>
    <PeriodUnit>Month</PeriodUnit>
    <DBClusterId>pc-*****</DBClusterId>
  </AutoRenewAttribute>
</Items>
<TotalRecordCount>1</TotalRecordCount>
<PageNumber>1</PageNumber>
<RequestId>8ABD1FF2-85B1-4D03-8C99-FB603B*****</RequestId>
<PageRecordCount>1</PageRecordCount>

```

JSON **format**

```

{
  "Items": {
    "AutoRenewAttribute": [
      {
        "RenewalStatus": "AutoRenewal",
        "Duration": 1,
        "RegionId": "cn-hangzhou",
        "AutoRenewEnabled": true,
        "PeriodUnit": "Month",
        "DBClusterId": "pc-*****"
      }
    ]
  },
  "TotalRecordCount": 1,
  "PageNumber": 1,
  "RequestId": "8ABD1FF2-85B1-4D03-8C99-FB603B*****",
  "PageRecordCount": 1
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

6.9.3. DescribeDBClusterAvailableResources

Queries PolarDB resources that are available.

Debugging

Alibaba Cloud provides OpenAPI Explorer to simplify API usage. OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DescribeDBClusterAvailableResources	The operation that you want to perform. Set the value to DescribeDBClusterAvailableResources .
PayType	String	Yes	Postpaid	The billing method. Valid values: Postpaid: the pay-as-you-go billing method Prepaid: the subscription billing method
DBType	String	No	MySQL	The database engine. Valid values: MySQL PostgreSQL Oracle
DBVersion	String	No	5.6	The version number of the database engine - Valid values for the MySQL database engine: 5.6 5.7 8.0 - Valid value for the PostgreSQL database engine: 11 - Valid value for the Oracle database engine: 11  Note If you specify the DBType parameter, you must specify this parameter.
DBNodeClass	String	No	polar.mysql.x4.large	The node type. For more information, see Specifications of compute nodes .

Parameter	Type	Required	Example	Description
RegionId	String	No	cn-hangzhou	The ID of the region where PolarDB resources that you want to query reside. Default value: cn-hangzhou.  Note You can call the DescribeRegions operation to query information about regions.
ZoneId	String	No	cn-hangzhou-i	The ID of the zone where PolarDB resources that you want to query reside.  Note You can call the DescribeRegions operation to query information about zones.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2B19F698-8FFC-4918-B9E2-58D878*****	The ID of the request.
AvailableZones	Array of AvailableZone		The information about the PolarDB resources that are available.
SupportedEngines	Array of SupportedEngine		The database engines that the available resources support.
Engine	String	mysql57	The version of the database engine.
AvailableResources	Array of AvailableResource		The list of available resources.
DBNodeClass	String	polar.mysql.x4.large	The node type.

Parameter	Type	Example	Description
Category	String	Normal	The edition of clusters that are available. Valid values: • Normal: Cluster Edition • Basic: Single Node Edition • Archive: Archive Database Edition
Zoneld	String	cn-hangzhou-i	The ID of the zone where the type of available resources reside.
RegionId	String	cn-hangzhou	The ID of the region where the type of available resources reside.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribeDBClusterAvailableResources
&PayType=Postpaid
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<DescribeDBClusterAvailableResourcesResponse>
  <RequestId>2B19F698-8FFC-4918-B9E2-58D878*****</RequestId>
  <AvailableZones>
    <SupportedEngines>
      <Engine>mysql57</Engine>
    </SupportedEngines>
    <AvailableResources>
      <DBNodeClass>polar.mysql.x4.large</DBNodeClass>
      <Category>Normal</Category>
    </AvailableResources>
  </AvailableZones>
  <ZoneId>cn-hangzhou-i</ZoneId>
  <RegionId>cn-hangzhou</RegionId>
</DescribeDBClusterAvailableResourcesResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "2B19F698-8FFC-4918-B9E2-58D878*****",
  "AvailableZones" : [ {
    "SupportedEngines" : [ {
      "Engine" : "mysql57",
      "AvailableResources" : [ {
        "DBNodeClass" : "polar.mysql.x4.large",
        "Category" : "Normal"
      } ]
    } ],
    "ZoneId" : "cn-hangzhou-i",
    "RegionId" : "cn-hangzhou"
  } ]
}
```

Error codes

HttpCode	Error code	Error message	Description
400	InvalidEngineVersion. Malformed	The specified parameter EngineVersion is not valid.	The error code returned because the specified value for the DBVersion parameter is invalid.

For a list of error codes, visit the [API Error Center](#).

7.Data Security

7.1. Whitelist management

7.1.1. ModifyDBClusterAccessWhitelist

Creates or modifies the whitelists for a PolarDB cluster. The whitelists include IP address whitelists and security groups.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterAccessWhitelist	The operation that you want to perform. Set the value to ModifyDBClusterAccessWhitelist .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
WhiteListType	String	No	IP	The type of the whitelist. Valid values: IP: IP whitelist group SecurityGroup: security group Default value: IP .

Parameter	Type	Required	Example	Description
DBClusterIPArrayName	String	No	default	The name of the IP whitelist group. The group name must be 2 to 120 characters in length and consists of lowercase letters and digits. It must start with a letter, and end with a letter or a digit. - If the specified whitelist group name does not exist, the whitelist group is created. - If the specified whitelist group name exists, the whitelist group is modified. - If you do not specify this parameter, the default group is modified.  Note - You can create a maximum of 50 IP whitelist groups for a cluster. - This parameter can be specified only when the WhiteListType parameter is set to IP.
DBClusterIPArrayAttribute	String	No	hidden	The attribute of the IP whitelist group. Set this parameter to hidden to hide the IP whitelist group in the console.  Note - The IP whitelist group that has appeared in the console cannot be hidden. - This parameter can be specified only when the WhiteListType parameter is set to IP.

Parameter	Type	Required	Example	Description
SecurityIps	String	No	10.23.12.24	The IP addresses or Classless Inter-Domain Routing (CIDR) blocks in the IP whitelist group. You can add 1,000 IP addresses or CIDR blocks to all the IP whitelist groups. Separate multiple IP addresses with commas (.). The following two formats are supported: • IP addresses. Example: 10.23.12.24. • CIDR blocks. Example: 10.23.12.24/24. 24 indicates the length of the prefix of the CIDR block. The length is the range of 1 to 32.  Note This parameter can be specified only when the WhiteListType parameter is set to IP.
ModifyMode	String	No	Cover	The method for modifying the IP whitelist. Valid values: • Cover: overwrites the original IP whitelist. This value is the default value. • Append: adds the IP address. • Delete: deletes the IP address.  Note This parameter can be specified only when the WhiteListType parameter is set to IP.

Parameter	Type	Required	Example	Description
SecurityGroupIds	String	No	sg-*****	The ID of the security group. Separate multiple security groups with commas (,).  Note - You can add a maximum of three security groups to a cluster. - This parameter can be specified only when the WhiteListType parameter is set to SecurityGroup.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBClusterAccessWhitelist
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBClusterAccessWhitelistResponse>
  <RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</ModifyDBClusterAccessWhitelistResponse>
```

JSON format

```
{
  "RequestId": "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

7.1.2. DescribeDBClusterAccessWhitelist

Queries the IP address whitelists and security groups of a specified database cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterAccessWhitelist	The operation that you want to perform. Set the value to DescribeDBClusterAccessWhitelist .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Response parameters

Parameter	Type	Example	Description
DBClusterSecurityGroups	Array of DBClusterSecurityGroup		The Elastic Compute Service (ECS) security groups that are associated with the cluster.
DBClusterSecurityGroup			
SecurityGroupId	String	sg-bp*****	The ID of the ECS security group.
SecurityGroupName	String	vpc-*****	The name of the ECS security group.
Items	Array of DBClusterIPArray		The list of IP address whitelists for the cluster.
DBClusterIPArray			
DBClusterIPArrayAttribute	String	hidden	The attributes of the IP address whitelist.
DBClusterIPArrayName	String	default	The name of the IP address whitelist.

Parameter	Type	Example	Description
SecurityIps	String	11.***.***.***,11.***.* **.*	The IP addresses in the whitelist. Each whitelist can contain a maximum of 1,000 IP addresses. Multiple IP addresses are separated with commas (.). The following two formats are supported: - IP addresses, such as 10.xx.xx.24. - CIDR blocks, such as 10.xx.xx.24/24. In this example value, the second 24 indicates that the prefix of the CIDR block is 24-bit long. You can replace the second 24 with a value that ranges from 1 to 32.
RequestId	String	559E91A2-CDA3-4E9F-808B-29D738*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribeDBClusterAccessWhitelist
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClusterAccessWhitelistResponse>
  <RequestId>559E91A2-CDA3-4E9F-808B-29D738*****</RequestId>
  <Items>
    <DBClusterIPArray>
      <SecurityIps>127.0.0.1</SecurityIps>
      <DBClusterIPArrayName>default</DBClusterIPArrayName>
      <DBClusterIPArrayAttribute></DBClusterIPArrayAttribute>
    </DBClusterIPArray>
    <DBClusterIPArray>
      <SecurityIps>11.***.***.***</SecurityIps>
      <DBClusterIPArrayName>test</DBClusterIPArrayName>
      <DBClusterIPArrayAttribute>hidden</DBClusterIPArrayAttribute>
    </DBClusterIPArray>
  </Items>
  <DBClusterSecurityGroups>
    <DBClusterSecurityGroup>
      <SecurityGroupName>vpc-*****</SecurityGroupName>
      <SecurityGroupId>sg-*****</SecurityGroupId>
    </DBClusterSecurityGroup>
  </DBClusterSecurityGroups>
</DescribeDBClusterAccessWhitelistResponse>
```

JSON format

```
{
  "RequestId": "559E91A2-CDA3-4E9F-808B-29D738*****",
  "Items": {
    "DBClusterIPArray": [
      {
        "SecurityIps": "127.0.0.1",
        "DBClusterIPArrayName": "default",
        "DBClusterIPArrayAttribute": ""
      },
      {
        "SecurityIps": "11.***.***.***,11.***.***.***",
        "DBClusterIPArrayName": "test",
        "DBClusterIPArrayAttribute": "hidden"
      }
    ],
    "DBClusterSecurityGroups": {
      "DBClusterSecurityGroup": [
        {
          "SecurityGroupName": "vpc-*****",
          "SecurityGroupId": "sg-*****"
        }
      ]
    }
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

7.2. SSL encryption

7.2.1. DescribeDBClusterSSL

Queries the Secure Sockets Layer (SSL) settings of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterSSL	The operation that you want to perform. Set the value to DescribeDBClusterSSL .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
Items	Array of Item		The list of SSL connections.
DBEndpointId	String	pe-*****	The ID of the cluster endpoint.
SSLConnectionString	String	pc-*****.mysql.polardb.rds.aliyuncs.com	The SSL connection string.
SSLEnabled	String	Enabled	The status of SSL encryption. Valid values: - Enabled: indicates that SSL encryption is enabled. - Disabled: indicates that SSL encryption is disabled.
SSLExpireTime	String	2021-11-13T07:14:22Z	The time when the SSL certificate expires. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
RequestId	String	C890995A-CF06-4F4D-8DB8-DD26C2*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterSSL
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

`XML` format

```
<DescribeDBClusterSSLResponse>
  <RequestId>C890995A-CF06-4F4D-8DB8-DD26C2*****</RequestId>
  <Items>
    <SSLConnectionString>pc-*****.mysql.polardb.rds.aliyuncs.com</SSLConnectionS
tring>
    <SSLExpireTime>2021-11-13T07:14:22Z</SSLExpireTime>
    <DBEndpointId>pe-*****</DBEndpointId>
    <SSLEnabled>Enabled</SSLEnabled>
  </Items>
</DescribeDBClusterSSLResponse>
```

JSON format

```
{
  "RequestId": "C890995A-CF06-4F4D-8DB8-DD26C2*****",
  "Items": [
    {
      "SSLConnectionString": "pc-*****.mysql.polardb.rds.aliyuncs.com",
      "SSLExpireTime": "2021-11-13T07:14:22Z",
      "DBEndpointId": "pe-*****",
      "SSLEnabled": "Enabled"
    }
  ]
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

7.2.2. ModifyDBClusterSSL

Enables or disables Security Socket Layer (SSL) encryption or updates the SSL certificate issued by Certificate Authorities (CA) for a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterSSL	The operation that you want to perform. Set the value to ModifyDBClusterSSL .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster that you want to manage.

Parameter	Type	Required	Example	Description
SSLEnabled	String	No	Enable	Specifies how to modify the SSL encryption status. Valid values: Disable: SSL encryption is disabled. Enable: SSL encryption is enabled. Update: The SSL certificate is updated.  Note After you enable SSL encryption or update the SSL certificate, you must download and configure the certificate. For more information, see Configure SSL encryption.
DBEndpointId	String	No	pe- *****	The ID of the endpoint.  Note - This parameter is required for a PolarDB for MySQL cluster. - This parameter is not required for a PolarDB for PostgreSQL cluster or a PolarDB for Oracle cluster. By default, SSL encryption is enabled for all endpoints. - You can call the DescribeDBClusterSSL operation to view the details of the endpoint.

Parameter	Type	Required	Example	Description
NetType	String	No	Public	The network type supported by the endpoint that is specified by DBEndpointId. Valid values: Public: Internet Private: virtual private cloud (VPC) Inner: the classic network  Note - This parameter is required for a PolarDB for MySQL cluster. - This parameter is not required for a PolarDB for PostgreSQL cluster or a PolarDB for Oracle cluster. By default, SSL encryption is enabled for all endpoints.
SSLAutoRotate	String	No	Enable	Specifies whether automatic rotation of SSL certificates is enabled. Enable: Automatic rotation of SSL certificates is enabled. Disable: Automatic rotation of SSL certificates is disabled.

Response parameters

Parameter	Type	Example	Description
RequestId	String	A94B1755-6D8B-4E27-BF3C-8562BC*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=ModifyDBClusterSSL
&DBClusterId=pc-*****
&SSLEnabled=Enable
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<ModifyDBClusterSSLResponse>
<RequestId>A94B1755-6D8B-4E27-BF3C-8562BC*****</RequestId>
</ModifyDBClusterSSLResponse>
```

JSON **format**

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "A94B1755-6D8B-4E27-BF3C-8562BC*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

8. Node management

8.1. CreateDBNodes

Adds a read-only node to a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateDBNodes	The operation that you want to perform. Set the value to CreateDBNodes .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Parameter	Type	Required	Example	Description
DBNode.N.TargetClass	String	No	polar.mysql.x4.medium	The specification of the node to be added. The specification of the new node must be consistent with the specifications of the original nodes. For more information about the node specifications, see Specifications and pricing.  Note - You must specify at least one of the DBNode.N.ZoneId and DBNode.N.TargetClass parameters. N is an integer that starts from 1. The maximum value of N is equal to 16 minus the number of current nodes. - You can add multiple read-only nodes to only ApsaraDB PolarDB MySQL-compatible edition clusters at a time. A ApsaraDB PolarDB MySQL-compatible edition cluster contains a maximum of 15 read-only nodes.

Parameter	Type	Required	Example	Description
DBNode.N.ZoneId	String	No	cn-qingdao-c	The zone ID of the node to be added. The zone ID of the new node must be consistent with the IDs of original nodes. You can call the DescribeRegions operation to query the IDs of zones.  Note - You must specify at least one of the DBNode.N.ZoneId and DBNode.N.TargetClass parameters. N is an integer that starts from 1. The maximum value of N is equal to 16 minus the number of current nodes. - You can add multiple read-only nodes to only ApsaraDB PolarDB MySQL-compatible edition clusters at a time. A ApsaraDB PolarDB MySQL-compatible edition cluster contains a maximum of 15 read-only nodes.
ClientToken	String	No	6000170000591aed949d0f54a343f1a4233c1e7d1c5c*****	Ensures the idempotence of requests to prevent duplicate requests from being submitted. You can use the client to generate the value, but you must make sure that the value is unique among different requests. The token is case-sensitive, and can contain a maximum of 64 ASCII characters in length.

Parameter	Type	Required	Example	Description
EndpointBindList	String	No	pe- ***** _*****	The ID of the cluster endpoint to which the new node is added. If you need to add the node to multiple endpoints at a time, separate multiple endpoint IDs with commas (,).  Note • you can call <code>DescribeDBClusterEndpoints</code> operation to query the details of cluster endpoints, including endpoint IDs. • You can enter the IDs of the default cluster endpoint and a custom cluster endpoint. • If this parameter is left blank, the new node is added to all the cluster endpoints for which the Automatically Associate New Nodes feature is enabled by default. When the <code>AutoAddNewNodes</code> parameter is set to <code>Enable</code>, the Automatically Associate New Nodes feature is enabled.

Parameter	Type	Required	Example	Description
PlannedStartTime	String	No	2021-01-14T09:00:00Z	The earliest time when the scheduled task for adding the node starts to be run. The scheduled task indicates that the task is run in the required period. Specify the time in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time must be in UTC.  Note - The value range of the start time is a time point in the next 24 hours. For example, if the current time is <code>2021-01-14T09:00:00Z</code>, you can enter a start time point in the range of <code>2021-01-14T09:00:00Z</code> to <code>2021-01-15T09:00:00Z</code>. - If this parameter is left blank, the task for adding the node is immediately run by default.

Parameter	Type	Required	Example	Description
PlannedEndTime	String	No	2021-01-14T09:30:00Z	The latest time when the scheduled task starts to be run. Specify the time in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time must be in UTC. Note - The latest time must be at least 30 minutes later than the start time. - If you specify the <code>PlannedStartTime</code> parameter but do not specify the <code>PlannedEndTime</code> parameter, the default latest time when the specified task starts to be run is <code>start time + 30 minutes</code>. For example, when the <code>PlannedStartTime</code> parameter is set to <code>2021-01-14T09:00:00Z</code> and the <code>PlannedEndTime</code> parameter is left blank, the latest time when the specified task starts to be run is <code>2021-01-14T09:30:00Z</code>.

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the database cluster.
DBNodeIds	List	pi-*****	The ID list of the database nodes that were created.
OrderId	String	11111111111111	The ID of the order.
RequestId	String	E053E730-5755-4AA9-AA9D-A47867*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CreateDBNodes
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateDBNodesResponse>
  <DBNodeIds>
    <DBNodeId>pi-*****</DBNodeId>
    <DBNodeId>pi-*****</DBNodeId>
  </DBNodeIds>
  <RequestId>E053E730-5755-4AA9-AA9D-A47867*****</RequestId>
  <DBClusterId>pc-*****</DBClusterId>
  <OrderId>11111111111111</OrderId>
</CreateDBNodesResponse>
```

JSON format

```
{
  "DBNodeIds": {
    "DBNodeId": [
      "pi-*****",
      "pi-*****"
    ]
  },
  "RequestId": "E053E730-5755-4AA9-AA9D-A47867*****",
  "DBClusterId": "pc-*****",
  "OrderId": 11111111111111
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

8.2. DeleteDBNodes

Deletes a read-only node from a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteDBNodes	The operation that you want to perform. Set the value to DeleteDBNodes .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster whose node is to be deleted.
DBNodeId.N	RepeatList	Yes	pi-*****	The ID of the node to be deleted. N is a positive integer that starts from 1. The maximum value of N is the number of current nodes minus 2. Each cluster must contain at least one primary node and one read-only node.  Note You can delete multiple read-only nodes at a time from only a ApsaraDB PolarDB MySQL-compatible edition cluster.
ClientToken	String	No	6000170000591aed949d0f54a343f1a42*****	The client token that is used to ensure the idempotence of the requests. If an API operation is idempotent, the API operation returns the same result for identical requests. You can use the client to generate the value, but you must make sure that the value is unique among different requests. The token is case-sensitive, and can contain a maximum of 64 ASCII characters in length.

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the PolarDB cluster.
OrderId	String	2035638*****	The ID of the order.
RequestId	String	6566B2E6-3157-4B57-A693-AFB751*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteDBNodes
&DBClusterId=pc-*****
&DBNodeId.1=pi-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteDBNodesResponse>
  <RequestId>6566B2E6-3157-4B57-A693-AFB751*****</RequestId>
  <OrderId>2035638*****</OrderId>
  <DBClusterId>pc-*****</DBClusterId>
</DeleteDBNodesResponse>
```

JSON format

```
{
  "RequestId": "6566B2E6-3157-4B57-A693-AFB751*****",
  "OrderId": "2035638*****",
  "DBClusterId": "pc-*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

8.3. RestartDBNode

Restarts a node in a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	RestartDBNode	The operation that you want to perform. Set the value to RestartDBNode .
DBNodeId	String	Yes	pi-*****	The ID of the cluster node.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=RestartDBNode
&DBNodeId=pi-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<RestartDBNodeResponse>
  <RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</RestartDBNodeResponse>
```

JSON format

```
{
  "RequestId": "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

8.4. ModifyDBNodeClass

Changes the node specifications of a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBNodeClass	The operation that you want to perform. Set the value to ModifyDBNodeClass .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
DBNodeTargetClass	String	Yes	polar.mysql.x4.large	For more information about the node specifications, see Specifications of compute nodes .
ModifyType	String	Yes	Upgrade	The type of change. Valid values: • Upgrade: upgrades specifications. • Downgrade: downgrades specifications.
ClientToken	String	No	6000170000591aed949d0f54a343f1a4233c1e7d1c5c*****	The client token that is used to ensure the idempotency of requests. If an API operation is idempotent, the same result is returned for identical requests. You can use the client to generate the value. Make sure that the value is unique for different requests. The token is case-sensitive. It can contain only ASCII characters and cannot exceed 64 characters in length.

Parameter	Type	Required	Example	Description
PlannedStartTime	String	No	2021-01-14T09:00:00Z	The earliest time to upgrade the specifications within the scheduled time period. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time must be in UTC.  Note - This parameter takes effect only when <code>ModifyType</code> is set to <code>Upgrade</code>. - The start time must be a point in time in the next 24 hours. For example, if the current time is <code>2021-01-14T09:00:00Z</code>, set this parameter to a value from <code>2021-01-14T09:00:00Z</code> to <code>2021-01-15T09:00:00Z</code>. - If this parameter is empty, the upgrade task is immediately performed.

Parameter	Type	Required	Example	Description
PlannedEndTime	String	No	2021-01-14T09:30:00Z	The latest start time to perform a scheduled upgrade task within the scheduled time period. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time must be in UTC.  Note - The latest start time must be at least 30 minutes later than the earliest start time. - If you specify the <code>PlannedStartTime</code> parameter but do not specify this parameter, this parameter is automatically set to a value that is 30 minutes after the time specified by <code>PlannedStartTime</code>. For example, if you set <code>PlannedStartTime</code> to <code>2021-01-14T09:00:00Z</code> but do not specify this parameter, the latest start time is automatically set to <code>2021-01-14T09:30:00Z</code>.

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the cluster.
OrderId	String	2035629*****	The ID of the order.
RequestId	String	685F028C-4FCD-407D-A559-072D63*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBNodeClass
&DBClusterId=pc-*****
&DBNodeTargetClass=polar.mysql.x4.large
&ModifyType=Upgrade
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBNodeClassResponse>
  <RequestId>685F028C-4FCD-407D-A559-072D6378C4C3</RequestId>
  <OrderId>2035629*****</OrderId>
  <DBClusterId>pc-*****</DBClusterId>
</ModifyDBNodeClassResponse>
```

JSON format

```
{
  "RequestId": "685F028C-4FCD-407D-A559-072D6378C4C3",
  "OrderId": "2035629*****",
  "DBClusterId": "pc-*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

9.Cluster parameters

9.1. DescribeDBClusterParameters

Queries the parameters of a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer automatically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterParameters	The operation that you want to perform. Set the value to ModifyDBClusterParameters .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
DBType	String	MySQL	The type of the database engine. Valid values: - MySQL - PostgreSQL - Oracle
DBVersion	String	5.6	The version number of the database engine. - The valid values of MySQL version number: 5.6 5.7 8.0 - The version number of PostgreSQL: 11 - The version number of Oracle: 11
Engine	String	POLARDB	The engine.

Parameter	Type	Example	Description
RequestId	String	EBEAA83D-1734-42E3-85E3-E25F6E*****	The ID of the request.
RunningParameters	Array of Parameter		The parameters that are in use.
Parameter			
CheckingCode	String	[utf8 latin1 gbk utf8mb4]	The valid values of a parameter.
DataType	String	INT	The data type of the parameter value.
DefaultParameterValue	String	utf8	The default value of the parameter.
ForceRestart	Boolean	true	Indicates whether a cluster restart is required to make the parameter modification take effect. Valid values: False: A cluster restart is not required. True: A cluster restart is required.
IsModifiable	Boolean	true	Indicates whether the parameter setting can be modified. Valid values: False: The parameter setting cannot be modified. True: The parameter setting can be modified.
ParameterDescription	String	The server's default character set.	The description of the parameter.
ParameterName	String	character_set_server	The name of the parameter.
ParameterStatus	String	Normal	The status of the parameter. Valid values: Normal: The parameter is in a normal state. Modifying: The parameter is being modified.
ParameterValue	String	utf8	The value of parameter.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterParameters
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML **format**

```
<DescribeDBClusterParametersResponse>
  <RunningParameters>
    <Parameter>
      <ParameterStatus>Normal</ParameterStatus>
      <DefaultParameterValue>1</DefaultParameterValue>
      <IsModifiable>true</IsModifiable>
      <DataType>INT</DataType>
      <ParameterDescription>Auto-increment columns are incremented by this</ParameterDescription>
      <ParameterValue>1</ParameterValue>
      <CheckingCode>[1-65535]</CheckingCode>
      <ForceRestart>false</ForceRestart>
      <ParameterName>auto_increment_increment</ParameterName>
    </Parameter>
    <Parameter>
      <DefaultParameterValue>utf8</DefaultParameterValue>
      <IsModifiable>true</IsModifiable>
      <CheckingCode>[utf8|latin1|gbk|utf8mb4]</CheckingCode>
      <ParameterValue>utf8</ParameterValue>
      <ParameterStatus>Normal</ParameterStatus>
      <ForceRestart>true</ForceRestart>
      <DataType>STRING</DataType>
      <ParameterName>character_set_server</ParameterName>
      <ParameterDescription>The server's default character set. </ParameterDescription>
    </Parameter>
  </RunningParameters>
  <DBVersion>5.6</DBVersion>
  <RequestId>EBEAA83D-1734-42E3-85E3-E25F6E*****</RequestId>
  <DBType>MySQL</DBType>
  <Engine>POLARDB</Engine>
</DescribeDBClusterParametersResponse>
```

JSON **format**

```
{
  "RunningParameters": {
    "Parameter": [
      {
        "ParameterStatus": "Normal",
        "DefaultParameterValue": 1,
        "IsModifiable": true,
        "DataType": "INT",
        "ParameterDescription": "Auto-increment columns are incremented by this",
        "ParameterValue": 1,
        "CheckingCode": "[1-65535]",
        "ForceRestart": false,
        "ParameterName": "auto_increment_increment"
      },
      {
        "DefaultParameterValue": "utf8",
        "IsModifiable": true,
        "CheckingCode": "[utf8|latin1|gbk|utf8mb4]",
        "ParameterValue": "utf8",
        "ParameterStatus": "Normal",
        "ForceRestart": true,
        "DataType": "STRING",
        "ParameterName": "character_set_server",
        "ParameterDescription": "The server's default character set."
      }
    ]
  },
  "DBVersion": "5.6",
  "RequestId": "EBEAA83D-1734-42E3-85E3-E25F6E*****",
  "DBType": "MySQL",
  "Engine": "POLARDB"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

9.2. ModifyDBClusterParameters

Modifies the parameters of a specified PolarDB cluster or applies existing parameter templates to a specified cluster.

PolarDB supports the parameter template feature. This allows you to quickly apply existing parameters to a PolarDB cluster.

 **Note** Only PolarDB for MySQL clusters support parameter templates.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterParameters	The operation that you want to perform. Set the value to ModifyDBClusterParameters .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query information about all clusters that are deployed in a specified region, such as the cluster ID.
Parameters	String	No	<pre>{"wait_timeout": "86", "innodb_old_blocks_time": "10"}</pre>	The JSON string that consists of parameters and values. The parameter values are strings, for example, <code>{"wait_timeout": "86", "innodb_old_blocks_time": "10"}</code>.  Note - You can call the DescribeDBClusterParameters operation to query the parameters of the PolarDB cluster. - For PolarDB for MySQL clusters or PolarDB for Oracle clusters, this parameter is required. - For PolarDB for MySQL clusters, you must specify this parameter or the <code>ParameterGroupId</code> parameter.

Parameter	Type	Required	Example	Description
ParameterGroupID	String	No	pcpg-*****	The ID of the parameter template.  Note - You can call the <code>DescribeParameterGroups</code> operation to query the parameter template ID. - You must specify this parameter or the <code>Parameters</code> parameter. - This parameter is supported by only PolarDB for MySQL clusters.

Response parameters

Parameter	Type	Example	Description
RequestId	String	C5D526E5-91B5-48B8-B980-FE07FF*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=ModifyDBClusterParameters
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<ModifyDBClusterParametersResponse>
<RequestId>C5D526E5-91B5-48B8-B980-FE07FF*****</RequestId>
</ModifyDBClusterParametersResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "C5D526E5-91B5-48B8-B980-FE07FF*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.Connection points

10.1. CreateDBEndpointAddress

Deletes the public endpoint of a specified PolarDB cluster. The public endpoint can be the primary endpoint, the default cluster endpoint, or a custom cluster endpoint.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateDBEndpointAddress	The operation that you want to perform. Set the value to CreateDBEndpointAddress .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
DBEndpointId	String	Yes	pe-*****	The ID of the endpoint.  Note You can call the DescribeDBClusterEndpoints operation to query endpoint IDs.
NetType	String	Yes	Public	The network type of the endpoint. Set the value to Public (public network).
ConnectionStringPrefix	String	No	test-1	The prefix of the new endpoint. The prefix must meet the following requirements: - It can contain lowercase letters, digits, and hyphens (-). - It must start with a letter and end with a digit or a letter. - It must be 6 to 30 characters in length.

Response parameters

Parameter	Type	Example	Description
RequestId	String	6BD9CDE4-5E7B-4BF3-9BB8-83C73E*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CreateDBEndpointAddress
&DBClusterId=pc-*****
&DBEndpointId=pe-*****
&NetType=Public
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateDBEndpointAddressResponse>
  <RequestId>6BD9CDE4-5E7B-4BF3-9BB8-83C73E*****</RequestId>
</CreateDBEndpointAddressResponse>
```

JSON format

```
{
  "RequestId": "6BD9CDE4-5E7B-4BF3-9BB8-83C73E*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.2. CreateDBClusterEndpoint

Creates a custom cluster endpoint for a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateDBClusterEndpoint	The operation that you want to perform. Set the value to CreateDBClusterEndpoint .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.
EndpointType	String	Yes	Custom	The type of the cluster endpoint. Set the value to Custom .
Nodes	String	No	pi-*****,pi-*****	The reader nodes to be associated with the endpoint. If you need to specify multiple reader nodes, separate the reader nodes with commas (,). By default, all the nodes in the specified cluster are associated with the cluster endpoint.  Note - You must specify the node ID for each PolarDB for MySQL cluster. - You must specify the role name of each node for each PolarDB for PostgreSQL or PolarDB for Oracle cluster. The valid values of role names include <code>Writer</code>, <code>Reader1</code>, and <code>Reader2</code>. - If you set ReadWriteMode to ReadOnly, only one node can be associated with the cluster endpoint. If the only node becomes faulty, the cluster endpoint may be unavailable for up to an hour. We recommend that you do not associate only one node with the cluster endpoint in production environments. We recommend that you associate at least two nodes with the cluster endpoint to improve service availability. - If you set ReadWriteMode to ReadWrite, you must associate at least two nodes with the cluster endpoint.

Parameter	Type	Required	Example	Description
				- No limits are imposed on the two nodes that you select for each PolarDB for MySQL cluster. If the two nodes are read-only nodes, write requests are forwarded to the primary node. - The following limit applies to PolarDB for PostgreSQL and PolarDB for Oracle clusters: One of the selected nodes must be the primary node.
ReadWriteMode	String	No	ReadOnly	The read/write mode. Valid values: ReadWrite: receives and forwards read and write requests. Automatic read/write splitting is enabled. ReadOnly: receives and forwards only read requests. Default value: ReadOnly
AutoAddNewNodes	String	No	Disable	Specifies whether to automatically associate newly added nodes with the cluster endpoint. Valid values: Enable: Newly added nodes are automatically associated with the cluster endpoint. Disable: Newly added nodes are not automatically associated with the cluster endpoint. Default value: Disable
				The advanced configurations of the cluster endpoint. You must specify the configurations in the JSON format. You can specify the configurations of the following attributes: consistency level, transaction splitting, connection pool, and offload reads from the primary node. Specify the consistency level in the

Parameter	Type	Required	Example	Description
EndpointConfig	String	No	<code>{"ConsistLevel": "1", "DistributedTransaction": "on"}</code>	format of <code>{"ConsistLevel\":"Consistency level\}"</code>. Valid values: ◦ 0: eventual consistency. ◦ 1: session consistency. The value 1 is the default value. ◦ 2: global consistency. • Specify the transaction splitting feature in the format of <code>{"DistributedTransaction\":"Transaction splitting\}"</code>. Valid values: ◦ on: enables the transaction splitting feature. By default, the feature is enabled. ◦ off: disables the transaction splitting feature. • Specify the offload reads from the primary node feature in the format of <code>{"MasterAcceptReads\":"Offload reads from the primary node\}"</code>. Valid values: ◦ on: The primary node accepts read requests. ◦ off: The primary node does not accept read requests. The value off is the default value. • Specify the connection pool in the format of <code>{"ConnectionPersist\":"Connection pool\}"</code>. Valid values: ◦ off: disables the connection pool. By default, the connection pool is disabled. ◦ Session: enables the session-level connection pool. ◦ Transaction: enables the transaction-level connection pool.

Parameter	Type	Required	Example	Description
				Note - You can specify the transaction splitting, connection pool, and offload reads from the primary node features for a PolarDB for MySQL cluster only if ReadWriteMode is set to ReadWrite for the cluster endpoint. - Only PolarDB for MySQL supports global consistency. - If the ReadWriteMode parameter is set to ReadOnly, the value for the consistency level must be 0. - You can use one record to specify the consistency level, transaction splitting, connection pool, and offload reads from the primary node features, such as <code>{\"ConsistLevel\": \"1\", \"DistributedTransaction\": \"on\", \"ConnectionPersist\": \"Session\", \"MasterAcceptReads\": \"on\"}</code>. - The setting of the transaction splitting feature is affected by the specified consistency level. For example, if you set the consistency level to 0, transaction splitting cannot be enabled. If you set the consistency level to 1 or 2, transaction splitting can be enabled.
ClientToken	String	No	6000170000591aed949d0f***** *****	The client token that is used to ensure the idempotency of requests. If an API operation is idempotent, the API operation returns the same result for identical requests. You can use the client to generate the value. Make sure that the value is unique for different requests. The token is case-sensitive. The token can contain only ASCII characters and cannot exceed 64 characters in length.
DBEndpointDescription	String	No	test	The name of the custom cluster endpoint.

Response parameters

Parameter	Type	Example	Description
RequestId	String	CD35F3-F3-44CA-AFFF-BAF869*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CreateDBClusterEndpoint
&DBClusterId=pc-*****
&EndpointType=Custom
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateDBClusterEndpointResponse>
  <RequestId>CD35F3-F3-44CA-AFFF-BAF869*****</RequestId>
</CreateDBClusterEndpointResponse>
```

JSON format

```
{
  "RequestId": "CD35F3-F3-44CA-AFFF-BAF869*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.3. DescribeDBClusterEndpoints

Queries the endpoints of a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterEndpoints	The operation that you want to perform. Set the value to DescribeDBClusterEndpoints .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query the details of all clusters that belong to your account, such as the cluster ID.
DBEndpointId	String	No	pe-*****	The ID of the cluster endpoint.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2DC120BF-6EBA-4C63-BE99-B09F9E*****	The ID of the request.
Items	Array of DBEndpoint		The details of the endpoint for the cluster.
NodeWithRoles	String	Reader1	The role name of each node in the endpoint. The role name of the primary node is Writer. Multiple read-only nodes can be associated with an endpoint. Therefore, the role name of each read-only node is suffixed with a number. For example, you can use Reader1 and Reader2 as the role names.  Note This parameter is returned for only PolarDB for PostgreSQL clusters and PolarDB for Oracle clusters.
Nodes	String	pi-***** ,pi-*****	The list of nodes that are configured for the endpoint.

Parameter	Type	Example	Description
ReadWriteMode	String	ReadOnly	The read/write mode. Valid values: • ReadWrite: receives and forwards read and write requests (automatic read/write splitting). • ReadOnly: receives and forwards only read requests.
AddressItems	Array of Address		The information about the connection string.
VSwitchId	String	vsw-*****	The ID of the vSwitch associated with the specified VPC.
PrivateZoneConnectionString	String	***.***.***.com	The private domain name that is bound to the endpoint.
ConnectionString	String	*****.rwlb.polardb-pg-public.rds.aliyuncs.com	The connection string.
NetType	String	Private	The type of network. Valid values: • Public: Internet • Private: virtual private cloud (VPC)
Port	String	1521	The port number of the endpoint.
VpcInstanceId	String	pe-*****	The ID of the VPC-connected instance.  Note This parameter is returned for only PolarDB for MySQL clusters.
VPCId	String	vpc-*****	The ID of the VPC.
IPAddress	String	192.***.***.***	The IP address.
DBEndpointId	String	pe-*****	The ID of the endpoint.

Parameter	Type	Example	Description
EndpointConfig	String	<pre>{"DistributedTransaction": "off", "ConsistLevel": "0", "LoadBalanceStrategy": "load", "MasterAcceptReads": "on"}</pre>	The advanced configurations of the cluster endpoint. • DistributedTransaction: indicates whether transaction splitting is enabled. Valid values: ◦ on: Transaction splitting is enabled. ◦ off: Transaction splitting is disabled. • ConsistLevel: the consistency level of sessions. Valid values: ◦ 0: eventual consistency ◦ 1: session consistency ◦ 2: global consistency • LoadBalanceStrategy: the load balancing policy that automatically schedules loads. Set the value to load. • MasterAcceptReads: indicates whether the primary node processes read requests. Valid values: ◦ on: The primary node processes read requests. ◦ off: The primary node does not process read requests.
DBEndpointDescription	String	test	The name of the custom cluster endpoint.  Note This parameter is returned for only custom cluster endpoints.
EndpointType	String	Custom	The type of the endpoint for the cluster. Valid values: • Cluster: the default cluster endpoint • Primary: the primary endpoint of the cluster • Custom: a custom cluster endpoint
AutoAddNewNodes	String	Enable	Indicates whether newly added nodes are automatically associated with the default cluster endpoint. Valid values: • Enable • Disable

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribeDBClusterEndpoints
&DBClusterId=pc-*****
&<Common Request Parameters>
```

Sample success responses

XML **format**

```
HTTP/1.1 200 OK
Content-Type:application/xml
<DescribeDBClusterEndpointsResponse>
<RequestId>2DC120BF-6EBA-4C63-BE99-B09F9E*****</RequestId>
<Items>
  <DBEndpointId>pe-*****</DBEndpointId>
  <NodeWithRoles>{"pi-*****":"Reader2","pi-*****":"Reader1"}</NodeWithRoles>
  <AutoAddNewNodes>Disable</AutoAddNewNodes>
  <EndpointType>Custom</EndpointType>
  <AddressItems>
    <VPCId>vpc-*****</VPCId>
    <Port>1521</Port>
    <VSwitchId>vsw-*****</VSwitchId>
    <ConnectionString>pe-*****.rwlb.polardb-pg-public.rds.aliyuncs.com</ConnectionString>
    <IPAddress>192.***.***.***</IPAddress>
    <NetType>Private</NetType>
  </AddressItems>
  <Nodes>pi-*****,pi-*****</Nodes>
  <ReadWriteMode>ReadOnly</ReadWriteMode>
  <EndpointConfig>{"DistributedTransaction":"off","ConsistLevel":"0","LoadBalanceStrategy":"load","MasterAcceptReads":"on"}</EndpointConfig>
  <DBEndpointDescription>test</DBEndpointDescription>
</Items>
</DescribeDBClusterEndpointsResponse>
```

JSON **format**

```

HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "2DC120BF-6EBA-4C63-BE99-B09F9E*****",
  "Items" : [ {
    "DBEndpointId" : "pe-*****",
    "NodeWithRoles" : "{\"pi-*****\": \"Reader2\", \"pi-*****\": \"Reader1\"}"
  },
  "AutoAddNewNodes" : "Disable",
  "EndpointType" : "Custom",
  "AddressItems" : [ {
    "VPCId" : "vpc-*****",
    "Port" : "1521",
    "VSwitchId" : "vsw-*****",
    "ConnectionString" : "pe-*****.rwl.b.polardb-pg-public.rds.aliyuncs.com",
    "IPAddress" : "192.***.***.***",
    "NetType" : "Private"
  } ],
  "Nodes" : "pi-*****,pi-*****",
  "ReadWriteMode" : "ReadOnly",
  "EndpointConfig" : "{\"DistributedTransaction\": \"off\", \"ConsistLevel\": \"0\", \"LoadBalanceStrategy\": \"load\", \"MasterAcceptReads\": \"on\"}",
  "DBEndpointDescription" : "test"
} ]
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.4. ModifyDBClusterEndpoint

Modifies the attributes of a PolarDB cluster endpoint. For example, you can modify the following attributes for a cluster endpoint: read/write mode, consistency level, transaction splitting, offload reads from the primary node, and connection pool. You can also call the operation to specify whether newly added nodes are automatically associated with a specified cluster endpoint.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterEndpoint	The operation that you want to perform. Set the value to ModifyDBClusterEndpoint .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB for MySQL cluster.
DBEndpointId	String	Yes	pe-*****	The ID of the cluster endpoint.
Nodes	String	No	pi-***** , pi-*****	The reader nodes to be associated with the endpoint. If you need to specify multiple reader nodes, separate the reader nodes with commas (.). If you do not specify this parameter, the predefined nodes are used by default.  Note - You must specify the node ID for each PolarDB for MySQL cluster. - You must specify the role name of each node for each PolarDB for PostgreSQL or PolarDB for Oracle cluster. The valid values of role names include <code>Writer</code>, <code>Reader1</code>, and <code>Reader2</code>. - If you set ReadWriteMode to ReadOnly, only one node can be associated with the cluster endpoint. If the only node becomes faulty, the cluster endpoint may be unavailable for up to an hour. We recommend that you do not associate only one node with the cluster endpoint in production environments. We recommend that you associate at least two nodes with the cluster endpoint to improve service availability. - If you set ReadWriteMode to ReadWrite, you must associate at least two nodes with the cluster endpoint.

Parameter	Type	Required	Example	Description
				- No limits are imposed on the two nodes that you select for each PolarDB for MySQL cluster. If the two nodes are read-only nodes, write requests are forwarded to the primary node. - The following limit applies to PolarDB for PostgreSQL and PolarDB for Oracle clusters: One of the selected nodes must be the primary node.
ReadWriteMode	String	No	ReadWrite	The read/write mode. Valid values: ReadWrite: The cluster endpoint receives and forwards read and write requests. Automatic read/write splitting is enabled. ReadOnly: The cluster endpoint only has read permissions on the database.
AutoAddNewNodes	String	No	Enable	Specifies whether to automatically associate newly added nodes with the cluster endpoint. Valid values: Enable: yes Disable: no (default)
				The advanced configurations of the cluster endpoint. You must specify the configurations in the JSON format. You can specify the configurations of the following attributes: consistency level, transaction splitting, connection pool, and offload reads from the primary node. - Specify the consistency level in the format of <code>{"ConsistLevel\":\"Consistency level\"}</code>. Valid values: 0: eventual consistency.

Parameter	Type	Required	Example	Description
Endpoint Config	String	No	<code>{"ConsistLevel": "1", "DistributedTransaction": "on", "MasterAcceptReads": "off", "ConnectionPersist": "on"}</code>	◦ 1: session consistency. The value 1 is the default value. ◦ 2: global consistency. • Specify the transaction splitting feature in the format of <code>{"DistributedTransaction": "Transaction splitting"}</code>. Valid values: ◦ on: enables the transaction splitting feature. By default, the feature is enabled. ◦ off: disables the transaction splitting feature. • Specify the offload reads from the primary node feature in the format of <code>{"MasterAcceptReads": "Offload reads from the primary node"}</code>. Valid values: ◦ on: The primary node accepts read requests. ◦ off: The primary node does not accept read requests. The value off is the default value. • Specify the connection pool in the format of <code>{"ConnectionPersist": "Connection pool"}</code>. Valid values: ◦ off: disables the connection pool. By default, the connection pool is disabled. ◦ Session: enables the session-level connection pool. ◦ Transaction: enables the transaction-level connection pool.

Parameter	Type	Required	Example	Description
				Note - You can specify the transaction splitting, connection pool, and offload reads from the primary node features for a PolarDB for MySQL cluster only if ReadWriteMode is set to ReadWrite for the cluster endpoint. - Only PolarDB for MySQL supports global consistency. - If the ReadWriteMode parameter is set to ReadOnly, the value for the consistency level must be 0. - You can use one record to specify the consistency level, transaction splitting, connection pool, and offload reads from the primary node features, such as <pre>{\"ConsistLevel\": \"1\", \"DistributedTransaction\": \"on\", \"ConnectionPersist\": \"Session\", \"MasterAcceptReads\": \"on\"}</pre>. - The setting of the transaction splitting feature is affected by the specified consistency level. For example, if you set the consistency level to 0, transaction splitting cannot be enabled. If you set the consistency level to 1 or 2, transaction splitting can be enabled.

Parameter	Type	Required	Example	Description
DBEndpointDescription	String	No	test	The name of the custom cluster endpoint.  Note This parameter takes effect for only custom cluster endpoints.

Response parameters

Parameter	Type	Example	Description
RequestId	String	CD3FA5F3-FAF3-44CA-AFFF-BAF869*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=ModifyDBClusterEndpoint
&DBClusterId=pc-*****
&DBEndpointId=pe-*****
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<ModifyDBClusterEndpointResponse>
<RequestId>CD3FA5F3-FAF3-44CA-AFFF-BAF869*****</RequestId>
</ModifyDBClusterEndpointResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "CD3FA5F3-FAF3-44CA-AFFF-BAF869*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.5. ModifyDBEndpointAddress

Modifies the endpoints of a specified PolarDB cluster, including the primary endpoint, the default cluster endpoint, custom cluster endpoints, and private domain names.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBEndpointAddress	The operation that you want to perform. Set the value to ModifyDBEndpointAddress .
DBClusterId	String	Yes	pc-*****	The ID of the cluster. Note You can call the DescribeDBClusters operation to query the details of all clusters that belong to your account, such as the cluster ID.
DBEndpointId	String	Yes	pe-*****	The ID of the endpoint. Note You can call the DescribeDBClusterEndpoints operation to query endpoint IDs.
NetType	String	Yes	Public	The network type of the endpoint. Valid values: Public: Internet Private: virtual private cloud (VPC)

Parameter	Type	Required	Example	Description
ConnectionStringPrefix	String	No	example	The prefix of the new endpoint. The prefix must meet the following requirements: • It can contain lowercase letters, digits, and hyphens (-). • It must start with a letter and end with a digit or a letter. • It must be 6 to 30 characters in length.
PrivateZoneAddressPrefix	String	No	aliyundoc	The prefix of the private domain name. The prefix must meet the following requirements: • It can contain lowercase letters, digits, and hyphens (-). • It must start with a letter and end with a digit or a letter. • It must be 6 to 30 characters in length.  Note • You can bind a private domain name to each VPC-facing endpoint of a PolarDB cluster. Private domain names apply to only the VPC that you specify within the current region. Private domain names are managed through PrivateZone. You can use the CNAME record of PrivateZone to map domain names to PolarDB. You are charged a small amount of fees for this feature. For more information, see Pricing. • This parameter takes effect only when NetType is set to Private.

Parameter	Type	Required	Example	Description
PrivateZoneName	String	No	aliyundoc.com	The name of the private zone.  Note This parameter takes effect only when NetType is set to Private.
Port	String	No	3306	The port number. Valid values: 3000 to 5999.  Note Only ApsaraDB PolarDB MySQL-compatible edition clusters support this parameter. If you leave this parameter empty, the default port 3306 is used.

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=ModifyDBEndpointAddress
&DBClusterId=pc-*****
&DBEndpointId=pe-*****
&NetType=Public
&<Common Request Parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<ModifyDBEndpointAddressResponse>
<RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</ModifyDBEndpointAddressResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.6. DeleteDBEndpointAddress

Deletes the public-facing endpoint or a classic network endpoint of a specified PolarDB cluster.

Note

- You can delete a public-facing or classic network endpoint of the primary endpoint, the default cluster endpoint, or a custom cluster endpoint.
- Classic network endpoints are supported only on the China site (aliyun.com). Therefore, you do not need to delete classic network endpoints on the International site (alibabacloud.com).

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteDBEndpointAddress	The operation that you want to perform. Set the value to DeleteDBEndpointAddress .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query the details of all clusters that belong to your account, such as the cluster ID.

Parameter	Type	Required	Example	Description
DBEndpointId	String	Yes	pe-*****	The ID of the endpoint.  Note You can call the DescribeDBClusterEndpoints operation to query the endpoints of a specified PolarDB cluster.
NetType	String	Yes	Public	The network type of the endpoint. Set the value to Public (public network).

Response parameters

Parameter	Type	Example	Description
RequestId	String	D0CEC6AC-7760-409A-A0D5-E6CD86*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DeleteDBEndpointAddress
&DBClusterId=pc-*****
&DBEndpointId=pe-*****
&NetType=Public
&<Common Request Parameters>
```

Sample success responses

XML **format**

```
HTTP/1.1 200 OK
Content-Type:application/xml
<DeleteDBEndpointAddressResponse>
<RequestId>D0CEC6AC-7760-409A-A0D5-E6CD86*****</RequestId>
</DeleteDBEndpointAddressResponse>
```

JSON **format**

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "D0CEC6AC-7760-409A-A0D5-E6CD86*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

10.7. DeleteDBClusterEndpoint

Releases the custom cluster endpoint of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteDBClusterEndpoint	The operation that you want to perform. Set the value to DeleteDBClusterEndpoint .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
DBEndpointId	String	Yes	pe-*****	The ID of the custom cluster endpoint.

Response parameters

Parameter	Type	Example	Description
RequestId	String	CD3FA5F3-FAF3-44CA-AFFF-BAF869*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteDBClusterEndpoint
&DBClusterId=pc-*****
&DBEndpointId=pe-*****
&<common request parameters>
```

Sample success responses

`XML` `format`

```
<DeleteDBClusterEndpointResponse>
  <RequestId>CD3FA5F3-FAF3-44CA-AFFF-BAF869*****</RequestId>
</DeleteDBClusterEndpointResponse>
```

JSON format

```
{
  "RequestId": "CD3FA5F3-FAF3-44CA-AFFF-BAF869*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

11.Logs

11.1.

DescribeDBClusterAuditLogCollector

Queries whether SQL data collector is enabled for a PolarDB cluster. The features of SQL data collector include audit logs and SQL Explorer.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterAuditLogCollector	The operation that you want to perform. Set the value to DescribeDBClusterAuditLogCollector .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
CollectorStatus	String	Disabled	The status of SQL data collector. Valid values: - Enable: SQL data collector is enabled. - Disabled: SQL data collector is disabled.
RequestId	String	59011D2B-2A38-4207-A86C-72BC1F882D19	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterAuditLogCollector
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClusterAuditLogCollectorResponse>
  <CollectorStatus>Disabled</CollectorStatus>
  <RequestId>59011D2B-2A38-4207-A86C-72BC1F*****</RequestId>
</DescribeDBClusterAuditLogCollectorResponse>
```

JSON format

```
{
  "CollectorStatus": "Disabled",
  "RequestId": "59011D2B-2A38-4207-A86C-72BC1F*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

11.2. ModifyDBClusterAuditLogCollector

Enables or disables SQL data collector for a PolarDB cluster. The features of the SQL data collector include audit logs and SQL Explorer.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterAuditLogCollector	The operation that you want to perform. Set the value to ModifyDBClusterAuditLogCollector .
CollectorStatus	String	Yes	Enable	Specifies whether to enable or disable SQL data collector. Valid values: - Enable: enables SQL data collector. - Disable: disables SQL data collector.
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	22C0ACF0-DD29-4B67-9190-B7A48C*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBClusterAuditLogCollector
&CollectorStatus=Enable
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBClusterAuditLogCollectorResponse>
  <RequestId>22C0ACF0-DD29-4B67-9190-B7A48C*****</RequestId>
</ModifyDBClusterAuditLogCollectorResponse>
```

JSON format

```
{
  "RequestId": "22C0ACF0-DD29-4B67-9190-B7A48C*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

12.Account management

12.1. CreateAccount

Creates a database account for a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CreateAccount	The operation that you want to perform. Set the value to CreateAccount .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
AccountName	String	Yes	testacc	The name of the account. The name must meet the following requirements: • It must start with a lowercase letter and end with a letter or a digit. • It can contain lowercase letters, digits, and underscores (_). • It must be 2 to 16 characters in length. • It cannot be root, admin, or another username that is reserved by the system.

Parameter	Type	Required	Example	Description
AccountPassword	String	Yes	Test1111	The password of the account. The password must meet the following requirements: - It must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. - It must be 8 to 32 characters in length. - Special characters include <code>! @ # \$ % ^ & * () _ + - =</code>
AccountType	String	No	Normal	The type of the account. Valid values: Normal: a standard account Super: a privileged account  Note - If you leave this parameter empty, the default value Super is used. - If the database engine of the PolarDB cluster is PolarDB for Oracle or PolarDB for PostgreSQL, you can create multiple privileged accounts for the cluster. A privileged account is granted more permissions than a standard account. For more information about how to create a database account, see Create a database account. - If the database engine of the PolarDB cluster is PolarDB for MySQL, only one privileged account can be created for the cluster. A privileged account is granted more permissions than a standard account. For more information about how to create a database account, see Create a database account.

Parameter	Type	Required	Example	Description
AccountDescription	String	No	testdes	The description of the account. The description must meet the following requirements: • It cannot start with <code>http://</code> or <code>https://</code>. • It must be 2 to 256 characters in length.
DBName	String	No	testdb	The name of the database that can be accessed by the account. To enter multiple database names, separate the names with commas (,).  Note Only standard accounts of clusters that run the engine of PolarDB for MySQL support this parameter.

Parameter	Type	Required	Example	Description
AccountPrivilege	String	No	ReadWrite	The permissions that are granted to the account. Valid values: ReadWrite: read and write permissions ReadOnly: read-only permissions DMLOnly: The account is granted the permissions to execute only DML statements on the database. DDLOnly: The account is granted the permissions to execute only DDL statements on the database. ReadIndex: The account has the read and index permissions on the database.  Note - If you leave this parameter empty, the default value ReadWrite is used. - If multiple database names are specified by the <code>DBName</code> parameter, you must grant corresponding permissions on the databases. Separate multiple permissions with commas (.). For example, if you want to grant the account the read and write permissions on DB1 and the read-only permissions on DB2, set <code>DBName</code> to <code>DB1,DB2</code>, and set <code>AccountPrivilege</code> to <code>ReadWrite,ReadOnly</code>. - Only standard accounts of clusters that run the engine PolarDB for MySQL support this parameter.

Parameter	Type	Required	Example	Description
ClientToken	String	No	6000170000591aed949d0f54a343f1a4233c1e7d1c5c*****	The client token that is used to ensure the idempotence of the request. You can use the client to generate the value, but you must ensure that it is unique among different requests. The token can only contain ASCII characters and cannot exceed 64 characters in length. The token is case-sensitive.

Response parameters

Parameter	Type	Example	Description
RequestId	String	CED079B7-A408-41A1-BFF1-EC608E*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=CreateAccount
&AccountName=testacc
&AccountPassword=Test1111
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<CreateAccountResponse>
<RequestId>CED079B7-A408-41A1-BFF1-EC608E*****</RequestId>
</CreateAccountResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "CED079B7-A408-41A1-BFF1-EC608E*****"
}
```

Error codes

HTTP status code	Error code	Error message	Description
404	InvalidDBCluster.NotFound	The DBClusterId provided does not exist in our records.	The error message returned because the specified DBClusterId does not exist in the current record.

For a list of error codes, visit the [API Error Center](#).

12.2. DescribeAccounts

Queries the details of a database account of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeAccounts	The operation that you want to perform. Set the value to DescribeAccounts .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
AccountName	String	No	test_acc	The name of the account.
PageNumber	Integer	No	1	The number of the page to return. The value must be an integer that is larger than 0. Default value: 1.

Parameter	Type	Required	Example	Description
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: • 30 • 50 • 100 Default value: 30.

Response parameters

Parameter	Type	Example	Description
Accounts	Array of DBAccount		The details of the account.
AccountDescription	String	test	The description of the account.
AccountLockState	String	UnLock	The locking status of the account. Valid values: • UnLock • Lock
AccountName	String	test_acc	The name of the account.
AccountPasswordValidTime	String	undefined	The validity period of the password.
AccountStatus	String	Available	The status of the account. Valid values: • Creating: The account is being created. • Available: The account is available. • Deleting: The account is being deleted.
AccountType	String	Normal	The type of the database account. Valid values: • Normal: a standard account • Super: a privileged account
DatabasePrivileges	Array of DatabasePrivilege		The list of database permissions that are granted to the account.
AccountPrivilege	String	ReadOnly	The permissions of the database account.

Parameter	Type	Example	Description
DBName	String	DBtest	The name of the database.
PageNumber	Integer	1	The page number of the returned page.
PageRecordCount	Integer	1	The number of entries returned on the current page.
RequestId	String	155462B9-205F-4FFC-BB43-4855FE*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeAccounts
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeAccountsResponse>
  <PageRecordCount>1</PageRecordCount>
  <RequestId>155462B9-205F-4FFC-BB43-4855FE*****</RequestId>
  <PageNumber>1</PageNumber>
  <Accounts>
    <AccountDescription>test</AccountDescription>
    <AccountStatus>Available</AccountStatus>
    <AccountLockState>UnLock</AccountLockState>
    <AccountPasswordValidTime>undefined</AccountPasswordValidTime>
    <AccountType>Normal</AccountType>
    <AccountName>test_acc</AccountName>
  </Accounts>
  <Accounts>
    <DatabasePrivileges>
      <AccountPrivilege>ReadOnly</AccountPrivilege>
      <DBName>DBtest</DBName>
    </DatabasePrivileges>
  </Accounts>
</DescribeAccountsResponse>
```

JSON format

```
{
  "PageRecordCount": 1,
  "RequestId": "155462B9-205F-4FFC-BB43-4855FE*****",
  "PageNumber": 1,
  "Accounts": [
    {
      "AccountDescription": "test",
      "AccountStatus": "Available",
      "AccountLockState": "UnLock",
      "AccountPasswordValidTime": "undefined",
      "AccountType": "Normal",
      "AccountName": "test_acc"
    },
    {
      "DatabasePrivileges": {
        "AccountPrivilege": "ReadOnly",
        "DBName": "DBtest"
      }
    }
  ]
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

12.3. ModifyAccountDescription

Modifies the description of a database account for a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyAccountDescription	The operation that you want to perform. Set the value to ModifyAccountDescription .

Parameter	Type	Required	Example	Description
AccountDescription	String	Yes	test	The description of the account. The description must meet the following requirements: - The name cannot start with <code>http://</code> or <code>https://</code>. - The name must be 2 to 256 characters in length.
AccountName	String	Yes	testacc	The name of the account.
DBClusterId	String	Yes	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2FED790E-FB61-4721-8C1C-07C627*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyAccountDescription
&AccountDescription=test
&AccountName=testacc
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyAccountDescriptionResponse>
  <RequestId>2FED790E-FB61-4721-8C1C-07C627*****</RequestId>
</ModifyAccountDescriptionResponse>
```

JSON format

```
{
  "RequestId": "2FED790E-FB61-4721-8C1C-07C627*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

12.4. DeleteAccount

Deletes a specified PolarDB database account.

 **Note** Before you call this operation, make sure that the cluster is in the Running state. Otherwise, the operation fails.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteAccount	The operation that you want to perform. Set the value to DeleteAccount .
AccountName	String	Yes	testacc	The name of the account.
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2FED790E-FB61-4721-8C1C-07C627*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteAccount
&AccountName=testacc
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

 format

```
<DeleteAccountResponse>
  <RequestId>2FED790E-FB61-4721-8C1C-07C627*****</RequestId>
</DeleteAccountResponse>
```

JSON format

```
{
  "RequestId": "2FED790E-FB61-4721-8C1C-07C627*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

12.5. ModifyAccountPassword

Changes the password of a database account for a specified PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyAccountPassword	The operation that you want to perform. Set the value to ModifyAccountPassword .
AccountName	String	Yes	testacc	The name of the account.
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.
NewAccountPassword	String	Yes	Pw123456	The new password of the account. The new password must meet the following requirements: - It must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. - It must be 8 to 32 characters in length. - It can contain the following special characters: <code>!@#\$%^&*()_+-=.</code>

Response parameters

Parameter	Type	Example	Description
RequestId	String	2FED790E-FB61-4721-8C1C-07C627*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyAccountPassword
&AccountName=testacc
&DBClusterId=pc-*****
&NewAccountPassword=Pw123456
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyAccountPasswordResponse>
  <RequestId>2FED790E-FB61-4721-8C1C-07C627*****</RequestId>
</ModifyAccountPasswordResponse>
```

JSON format

```
{
  "RequestId": "2FED790E-FB61-4721-8C1C-07C627*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

12.6. CheckAccountName

Checks whether an account name is valid or unique in the cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
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Parameter	Type	Required	Example	Description
Action	String	No	CheckAccountName	The operation that you want to perform. Set the value to CheckAccountName .
AccountName	String	Yes	test_acc	The name of the account.
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query information about all clusters that are deployed in a specified region, such as the cluster ID.

Response parameters

Parameter	Type	Example	Description
RequestId	String	925B84D9-CA72-432C-95CF-738C22*****	The ID of the request.

- If the account name that you enter is invalid, the error message `Specified account name is not valid` is returned.
- If the account name that you enter exists in the cluster, the error message `The specified account name already exists` is returned.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CheckAccountName
&AccountName=test_acc
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<CheckAccountNameResponse>
  <RequestId>925B84D9-CA72-432C-95CF-738C22*****</RequestId>
</CheckAccountNameResponse>
```

JSON format

```
{
  "RequestId": "925B84D9-CA72-432C-95CF-738C22*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

13.Database management

13.1. CreateDatabase

Creates a database for a PolarDB cluster.

Before you call this operation, make sure that the following requirements are met:

- The cluster is in the Running state.
- The cluster is unlocked.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateDatabase	The operation that you want to perform. Set the value to CreateDatabase .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.
DBName	String	Yes	testDB	The name of the database. The name must meet the following requirements: • The name can contain lowercase letters, digits, hyphens (-), and underscores (_). • The name must start with a lowercase letter and end with a lowercase letter or a digit. The name must be 1 to 64 characters in length.  Note The name cannot be <code>test</code>, <code>mysql</code>, or another keyword that is reserved by the system.
CharacterSetName	String	Yes	utf8	The character set that is used by the database. For more information, see Character sets .

Parameter	Type	Required	Example	Description
DBDescription	String	No	testdesc	The description of the database. The description must meet the following requirements: - It cannot start with <code>http://</code> or <code>https://</code>. - It must be 2 to 256 characters in length. Note If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.
AccountName	String	No	testacc	The name of the account that is authorized to access the database. You can call the DescribeAccounts operation to query account information. Note - You can specify only a standard account. By default, privileged accounts have all permissions on all databases. You do not need to authorize the privileged accounts to access the database. - If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.

Parameter	Type	Required	Example	Description
AccountPrivilege	String	No	ReadWrite	The permissions of the account. Valid values: • ReadWrite: The account has the read and write permissions on the database. • ReadOnly: The account has the read-only permissions on the database. • DMLOnly: The account has the permissions only to execute DML statements on the database. • DDLOnly: The account has the permissions only to execute DDL statements on the database. If you leave this parameter empty, the default value ReadWrite is used.  Note • This parameter is valid only when the AccountName parameter is specified. • If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.

Parameter	Type	Required	Example	Description
Collate	String	No	C	The language that specifies the collation of the database that is to be created.  Note - The language must be compatible with the character set that is specified by the CharacterSetName parameter. - If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.
Ctype	String	No	C	The language that specifies the character type of the database.  Note - The language must be compatible with the character set that is specified by the CharacterSetName parameter. - The specified value must be the same as that of the Collate parameter. - If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.

Response parameters

Parameter	Type	Example	Description
RequestId	String	93E98F25-BE02-40DA-83E3-F77F8D*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=CreateDatabase
&CharacterSetName=utf8
&DBClusterId=pc-*****
&DBName=testDB
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<CreateDatabaseResponse>
  <RequestId>93E98F25-BE02-40DA-83E3-F77F8D*****</RequestId>
</CreateDatabaseResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "93E98F25-BE02-40DA-83E3-F77F8D*****"
}
```

Error codes

HTTP status code	Error code	Error message	Description
400	InvalidDBName.Malformed	The specified parameter DBName is not valid.	The error message returned because the specified value of the DBName parameter is invalid.

For a list of error codes, visit the [API Error Center](#).

13.2. DescribeDatabases

Queries information about databases in a specified PolarDB cluster.

Debugging

Alibaba Cloud provides OpenAPI Explorer to simplify API usage. OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DescribeDatabases	The operation that you want to perform. Set the value to DescribeDatabases .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
DBName	String	No	test_db	The name of the database that you want to query.  Note You can specify only one database.
PageNumber	Integer	No	1	The number of the page to return. The value must be a positive integer that does not exceed the maximum value of the INTEGER data type. Default value: 1.
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30 50 100 Default value: 30.

Response parameters

Parameter	Type	Example	Description
PageRecordCount	Integer	1	The number of entries returned per page.
Databases	Array of Database		The information about databases.

Parameter	Type	Example	Description
Database			
DBDescription	String	test_des	The description of the database.
DBStatus	String	Running	The state of the database. Valid values: • Creating: The database is being created. • Running: The database is running. • Deleting: The database is being deleted.
DBName	String	test_db	The name of the database.
Engine	String	MySQL	The engine that the database runs. Valid values: • MySQL • Oracle • PostgreSQL
CharacterSetName	String	utf8mb4	The character set that the database uses. For more information, see Character set tables .
Accounts	Array of Account		The accounts that can be used to access the database.  Note If you run the MySQL database engine on the cluster, the cluster does not support privileged accounts.
Account			
PrivilegeStatus	String	Empowered	The authorization state of the account. Valid values: • Empowering: The system is granting permissions to the account. • Empowered: Permissions are granted to the account. • Removing: The system is revoking permissions from the account.

Parameter	Type	Example	Description
AccountStatus	String	Available	The state of the account. Valid values: • Creating: The account is being created. • Available: The account is available. • Deleting: The account is being deleted.
AccountPrivilege	String	ReadOnly	The permissions that are granted to the account. Valid values: • ReadWrite: The account is granted the read and write permissions on the database. • ReadOnly: The account is granted the read-only permissions on the database. • DMLOnly: The account is granted the permissions to execute only DML statements on the database. • DDLOnly: The account is granted the permissions to execute only DDL statements on the database. • ReadIndex: The account has the read and index permissions on the database.
AccountName	String	test_acc	The username of the account.  Note If you run the MySQL database engine on the cluster, the cluster does not support privileged accounts.
RequestId	String	E1DF8CA6-2300-448B-9ABF-760C4B*****	The ID of the request.
PageNumber	Integer	1	The page number of the returned page.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribeDatabases
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

`XML` format

```
HTTP/1.1 200 OK
Content-Type: application/xml
<DescribeDatabasesResponse>
<PageRecordCount>1</PageRecordCount>
<Databases>
  <Database>
    <DBName>test_db</DBName>
    <CharacterSetName>utf8mb4</CharacterSetName>
    <DBStatus>Running</DBStatus>
    <Engine>MySQL</Engine>
    <DBDescription>test_des</DBDescription>
  </Database>
  <Database>
    <Accounts>
      <Account>
        <AccountStatus>Available</AccountStatus>
        <AccountPrivilege>ReadOnly</AccountPrivilege>
        <PrivilegeStatus>Empowered</PrivilegeStatus>
        <AccountName>test_acc</AccountName>
      </Account>
    </Accounts>
  </Database>
</Databases>
<RequestId>E1DF8CA6-2300-448B-9ABF-760C4B*****</RequestId>
<PageNumber>1</PageNumber>
</DescribeDatabasesResponse>
```

[JSON format](#)

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "PageRecordCount" : 1,
  "Databases" : {
    "Database" : [ {
      "DBName" : "test_db",
      "CharacterSetName" : "utf8mb4",
      "DBStatus" : "Running",
      "Engine" : "MySQL",
      "DBDescription" : "test_des"
    }, {
      "Accounts" : {
        "Account" : {
          "AccountStatus" : "Available",
          "AccountPrivilege" : "ReadOnly",
          "PrivilegeStatus" : "Empowered",
          "AccountName" : "test_acc"
        }
      }
    } ]
  },
  "RequestId" : "E1DF8CA6-2300-448B-9ABF-760C4B*****",
  "PageNumber" : 1
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

13.3. DeleteDatabase

Deletes a database from a specified PolarDB cluster.

Before you call this operation, make sure that the specified cluster meets the following requirements:

- The specified cluster is in the Running state.
- The specified cluster is not locked.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteDatabase	The operation that you want to perform. Set the value to DeleteDatabase .

Parameter	Type	Required	Example	Description
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.
DBName	String	Yes	testdb	The name of the database.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2FED790E-FB61-4721-8C1C-07C627*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteDatabase
&DBClusterId=pc-*****
&DBName=testdb
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteDatabaseResponse>
  <RequestId>2FED790E-FB61-4721-8C1C-07C627*****</RequestId>
</DeleteDatabaseResponse>
```

JSON format

```
{
  "RequestId": "2FED790E-FB61-4721-8C1C-07C627*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

13.4. CheckDBName

Checks whether a database name is valid or unique in the cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CheckDBName	The operation that you want to perform. Set the value to CheckDBName .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query information about all clusters that are deployed in a specified region, such as the cluster ID.
DBName	String	Yes	test_db	The name of the database.

Response parameters

Parameter	Type	Example	Description
RequestId	String	CDB3258F-B5DE-43C4-8935-CBA0CA*****	The ID of the request.

- If the database name that you enter is invalid, the error message `Specified DB name is not valid` is returned.
- If the database name that you enter exists in the cluster, the error message `Specified DB name already exists` is returned.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CheckDBName
&DBClusterId=pc-*****
&DBName=test_db
&<Common request parameters>
```

Sample success responses

XML format

```
<CheckDBNameResponse>
  <RequestId>CDB3258F-B5DE-43C4-8935-CBA0CA*****</RequestId>
</CheckDBNameResponse>
```

JSON format

```
{
  "RequestId": "CDB3258F-B5DE-43C4-8935-CBA0CA*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

13.5. DescribeDBInitializeVariable

Queries the attributes that are supported by PolarDB for Oracle or PolarDB for PostgreSQL databases, such as the character sets and collations.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBInitializeVariable	The operation that you want to perform. Set the value to DescribeDBInitializeVariable .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.  Note You can call the DescribeDBClusters operation to query information about all the clusters that are deployed in a specified region, including the cluster IDs.

Response parameters

Parameter	Type	Example	Description
DBType	String	PostgreSQL	The type of the database. Valid values: - Oracle - PostgreSQL
DBVersion	String	11	The version of the database.

Parameter	Type	Example	Description
RequestId	String	475F58B7-F394-4394-AA6E-4F1CBA*****	The ID of the request.
Variables	Array of Variable		The returned data.
Variable			
Charset	String	EUC_CN	The supported character set.
Collate	String	C	The collation that is used to sort strings.
Ctype	String	C	The type of the character.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBInitializeVariable
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<ResponseResponse>
  <Variables>
    <Variable>
      <Charset>EUC_CN</Charset>
      <Collate>C</Collate>
      <Ctype>C</Ctype>
    </Variable>
    <Variable>
      <Charset>EUC_CN</Charset>
      <Collate>POSIX</Collate>
      <Ctype>POSIX</Ctype>
    </Variable>
  </Variables>
  <DBVersion>11</DBVersion>
  <RequestId>475F58B7-F394-4394-AA6E-4F1CBA1F2FE8</RequestId>
  <DBType>PostgreSQL</DBType>
</ResponseResponse>
```

JSON format

```
{
  "Variables": {
    "Variable": [
      {
        "Charset": "EUC_CN",
        "Collate": "C",
        "Ctype": "C"
      },
      {
        "Charset": "EUC_CN",
        "Collate": "POSIX",
        "Ctype": "POSIX"
      }
    ]
  },
  "DBVersion": "11",
  "RequestId": "475F58B7-F394-4394-AA6E-4F1CBA1F2FE8",
  "DBType": "PostgreSQL"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.Backup management

14.1. CreateBackup

Creates a full snapshot backup for a specified PolarDB cluster.

Note

- You can manually create up to three backups for each cluster.
- The error message `Exceeding the daily backup times of this DB cluster` indicates that three manual backups already exist in your cluster. You must **delete a backup** before you call this operation to manually create backups.
- After you call this operation, a backup task is created in the backend. The task may be time-consuming if you want to back up large amounts of data.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	CreateBackup	The operation that you want to perform. Set the value to CreateBackup .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
ClientToken	String	No	6000170000591aed949d0f54a343f1a4233c1e7d1c5c*****	The client token that is used to ensure the idempotency of requests. If an API operation is idempotent, the API operation returns the same result for identical requests. You can use the client to generate the value. Make sure that the value is unique for different requests. The token is case-sensitive. It can contain only ASCII characters and cannot exceed 64 characters in length.

Response parameters

Parameter	Type	Example	Description
-----------	------	---------	-------------

Parameter	Type	Example	Description
BackupJobId	String	11111111	The ID of the backup set.
RequestId	String	F3322AFE-083E-4D77-A074-421301*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=CreateBackup
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateBackupResponse>
  <RequestId>F3322AFE-083E-4D77-A074-421301*****</RequestId>
  <BackupJobId>11111111</BackupJobId>
</CreateBackupResponse>
```

JSON format

```
{
  "RequestId": "F3322AFE-083E-4D77-A074-421301*****",
  "BackupJobId": 11111111
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.2. DeleteBackup

Deletes the backups of a specified PolarDB cluster.

Before you call this operation, make sure that the cluster meets the following requirements:

- The cluster is in the Running state.
- The data is backed up for the cluster.

Note

- You can call the [DescribeBackups](#) operation to query the status of backups.
- After you delete the backup file, the storage space that is consumed by the backup file is released. The released storage space is smaller than the size of the backup file, because your snapshots share some data blocks.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DeleteBackup	The operation that you want to perform. Set the value to DeleteBackup .
BackupId	String	Yes	11111111	The IDs of the backups. If you need to specify multiple backup IDs, separate the backup IDs with commas (.).  Note You can call the DescribeBackups operation to query the backup IDs.
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Response parameters

Parameter	Type	Example	Description
RequestId	String	3CF4F9FE-BF77-4739-8D68-B8DF5D*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DeleteBackup
&BackupId=11111111
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteBackupResponse>
  <RequestId>3CF4F9FE-BF77-4739-8D68-B8DF5D*****</RequestId>
</DeleteBackupResponse>
```

JSON format

```
{
  "RequestId": "3CF4F9FE-BF77-4739-8D68-B8DF5D*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.3. DescribeBackups

Queries the backup details of an Apsara PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeBackups	The operation that you want to perform. Set the value to DescribeBackups.
DBClusterId	String	Yes	pc-*****	The ID of the Apsara PolarDB cluster.
EndTime	String	Yes	2020-05-02T00:00Z	The end time of the query. The time must be in UTC. The format is <code>YYYY-MM-DDThh:mmZ</code> . ? Note The end time must be later than the start time.
StartTime	String	Yes	2020-05-01T00:00Z	The start time of the query. The time must be in UTC. The format is <code>YYYY-MM-DDThh:mmZ</code> .

Parameter	Type	Required	Example	Description
BackupId	String	No	61*****	The ID of the backup set.
BackupStatus	String	No	Success	The status of the backup task. Valid values: • Success: The backup task is successful. • Failed: The backup task fails.
BackupMode	String	No	Manual	The backup policy. Valid values: • Automated: automatic backup • Manual: manual backup
PageSize	Integer	No	30	The number of entries to return on each page. Default value: 30. Valid values: • 30 • 50 • 100
PageNumber	Integer	No	1	The number of the page to return. Default value: 1. Valid values: non-zero positive integers.

Response parameters

Parameter	Type	Example	Description
Items	Array		The details of the backup set.
Backup			
BackupEndTime	String	2020-05-01T22:56:43Z	The end time of the backup. The time is displayed in UTC.
BackupId	String	61*****	The ID of the backup set.
BackupMethod	String	Snapshot	The backup method. Only snapshot backups are supported. The value of this parameter is Snapshot.

Parameter	Type	Example	Description
BackupMode	String	Automated	The backup policy. Valid values: - Automated: automatic backup - Manual: manual backup
BackupSetSize	String	154920107	The size of the backup file. Unit: bytes.  Note After you delete the target snapshot backups, the storage space consumed by the backups is released. The released storage space is smaller than the size of the backup file, because the snapshots share certain data blocks.
BackupStartTime	String	2020-05-01T22:56:28Z	The start time of the backup. The time is displayed in UTC.
BackupStatus	String	Success	The status of the backup task. Valid values: - Success: The backup task is successful. - Failed: The backup task fails.
BackupType	String	FullBackup	The type of the backup. Only full backups are supported. The value of this parameter is FullBackup.
BackupsLevel	String	Level-2	The level of the backup set. Valid values: - Level-1: level-1 backup set - Level-2: level-2 backup set
ConsistentTime	String	1589418586	The snapshot checkpoint time. The value is a Unix timestamp.
DBClusterId	String	pc-*****	The ID of the cluster.
IsAvail	String	0	Indicates whether the backup set is available. Valid values: 0: unavailable 1: available

Parameter	Type	Example	Description
StoreStatus	String	Disabled	Indicates whether the backup set can be deleted. Valid values: - Enabled: The backup set can be deleted. - Disabled: The backup set cannot be deleted.
PageNumber	String	1	The page number of the returned page.
PageRecordCount	String	1	The number of entries returned on the current page.
RequestId	String	EAF5BFA9-78FD-486B-9C76-DF292*****	The ID of the request.
TotalRecordCount	String	1	The total number of entries that were returned.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeBackups
&DBClusterId=pc-*****
&EndTime=2020-05-02T00:00Z
&StartTime=2020-05-01T00:00Z
&<Common request parameters>
```

Sample success responses

`XML` format

```

<DescribeBackupsResponse>
  <TotalRecordCount>1</TotalRecordCount>
  <PageRecordCount>1</PageRecordCount>
  <RequestId>24A1990B-4F6E-482B-B8CB-75C612*****</RequestId>
  <PageNumber>1</PageNumber>
  <Items>
    <Backup>
      <BackupMethod>Snapshot</BackupMethod>
      <BackupMode>Automated</BackupMode>
      <BackupsLevel>Level-1</BackupsLevel>
      <DBClusterId>pc-*****</DBClusterId>
      <BackupId>111111111</BackupId>
      <IsAvail>1</IsAvail>
      <BackupSetSize>4639948800</BackupSetSize>
      <StoreStatus>Disabled</StoreStatus>
      <BackupEndTime>2020-11-15T07:30:20Z</BackupEndTime>
      <BackupStartTime>2020-11-15T07:30:05Z</BackupStartTime>
      <ConsistentTime>1605425407</ConsistentTime>
      <BackupType>FullBackup</BackupType>
      <BackupStatus>Success</BackupStatus>
    </Backup>
  </Items>
</DescribeBackupsResponse>

```

JSON **format**

```

{
  "TotalRecordCount": 1,
  "PageRecordCount": 1,
  "RequestId": "EAF5BFA9-78FD-486B-9C76-DF292*****",
  "PageNumber": 1,
  "Items": {
    "Backup": [
      {
        "BackupMethod": "Snapshot",
        "BackupMode": "Automated",
        "BackupsLevel": "Level-2",
        "DBClusterId": "pc-*****",
        "BackupId": "61*****",
        "IsAvail": 1,
        "BackupSetSize": 154920107,
        "StoreStatus": "Disabled",
        "BackupEndTime": "2020-05-01T22:56:43Z",
        "BackupStartTime": "2020-05-01T22:56:28Z",
        "ConsistentTime": 1588373790,
        "BackupType": "FullBackup",
        "BackupStatus": "Success"
      }
    ]
  }
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.4. DescribeBackupTasks

Queries the backup tasks of a specific PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeBackupTasks	The operation that you want to perform. Set the value to DescribeBackupTasks .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
BackupJobId	String	No	11111111	The ID of the backup task.
BackupMode	String	No	Manual	The backup mode. Valid values: Automated: automatic backup Manual: manual backup

Response parameters

Parameter	Type	Example	Description
Items	Array of BackupJob		The details of the backup task.
BackupJob			
BackupJobId	String	11111111	The ID of the backup task.

Parameter	Type	Example	Description
BackupProgressStatus	String	NoStart	The status of the backup task. Valid values: NoStart: The backup task has not been started. Preparing: The backup task is in the preparing phase. Waiting: The backup task is waiting to be started. Uploading: The backup task is uploading the backup file. Checking: The backup task is checking the uploaded backup file. Finished: The backup task is completed.
JobMode	String	Automated	The backup mode. Valid values: Automated: automatic backup Manual: manual backup
Process	String	0	The progress percentage of the backup task.
StartTime	String	2020-08-08T07:24:01Z	The time when the backup task started. The time follows the ISO 8601 standard in the <code>YYYY-MM-DDThh:mm:ssZ</code> format. The time is displayed in UTC.
TaskAction	String	NormalBackupTask	The type of the backup task. Valid values: TempBackupTask: The backup task is a temporary backup task. NormalBackupTask: The backup task is a common backup task.
RequestId	String	FA8C1EF1-E3D4-44D7-B809-823187*****	The ID of the request.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeBackupTasks
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeBackupTasksResponse>
  <RequestId>FA8C1EF1-E3D4-44D7-B809-823187*****</RequestId>
  <Items>
    <BackupJob>
      <JobMode>Automated</JobMode>
      <TaskAction>NormalBackupTask</TaskAction>
      <StartTime>2020-08-08T07:24:01Z</StartTime>
      <BackupProgressStatus>NoStart</BackupProgressStatus>
      <Process>0</Process>
      <BackupJobId>11111111</BackupJobId>
    </BackupJob>
  </Items>
</DescribeBackupTasksResponse>
```

JSON format

```
{
  "RequestId": "FA8C1EF1-E3D4-44D7-B809-823187*****",
  "Items": {
    "BackupJob": [
      {
        "JobMode": "Automated",
        "TaskAction": "NormalBackupTask",
        "StartTime": "2020-08-08T07:24:01Z",
        "BackupProgressStatus": "NoStart",
        "Process": "0",
        "BackupJobId": 11111111
      }
    ]
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.5. DescribeBackupLogs

You can call this operation to query backup logs and the URLs for downloading backup logs.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeBackupLogs	The operation that you want to perform. Set the value to DescribeBackupLogs .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
EndTime	String	Yes	2020-02-12T15:00Z	The end of the time range to query. The end time must be later than the start time. Specify the time in the <code>YYYY-MM-DDThh:mmZ</code> format. The time must be in UTC.
StartTime	String	Yes	2020-02-01T15:00Z	The beginning of the time range to query. Specify the time in the <code>YYYY-MM-DDThh:mmZ</code> format. The time must be in UTC.
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30 50 100 Default value: 30
PageNumber	Integer	No	1	The number of the page to return. The value must be an integer that is larger than 0. Default value: 1.

Response parameters

Parameter	Type	Example	Description
TotalRecordCount	String	2	The total number of entries returned.
RequestId	String	ADAC63DB-0691-4ECE-949A-FAEA68*****	The ID of the request.
PageNumber	String	1	The page number of the page returned.
Items	Array of BackupLog		The details of the backup log.

Parameter	Type	Example	Description
BackupLog			
BackupLogEndTime	String	2020-02-12T03:55:31Z	The time when the backup log ended. The time follows the ISO 8601 standard in the <code>YYYY-MM-DD'T'HH:mm:ssZ</code> format. The time is displayed in UTC.
BackupLogId	String	1111111111	The ID of the backup log.
BackupLogName	String	ib_logfile1	The name of the backup log.
BackupLogSize	String	1073741824	The size of the backup log. Unit: bytes.
BackupLogStartTime	String	2020-02-12T03:54:43Z	The time when the backup task started. The time follows the ISO 8601 standard in the <code>YYYY-MM-DD'T'HH:mm:ssZ</code> format. The time is displayed in UTC.
DownloadLink	String	http://*****.oss-cn-hangzhou.aliyuncs.com	The public URL to download the backup log.
IntranetDownloadLink	String	http://*****.oss-cn-hangzhou-internal.aliyuncs.com	The internal URL to download the backup log.
LinkExpiredTime	String	2020-02-14T08:40:50Z	The time when the download URL expires.
PageRecordCount	String	2	The number of entries returned per page.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeBackupLogs
&DBClusterId=pc-*****
&EndTime=2020-02-12T15:00Z
&StartTime=2020-02-01T15:00Z
&<Common request parameters>
```

Sample success responses

`XML` format

```

<DescribeBackupLogsResponse>
  <TotalRecordCount>2</TotalRecordCount>
  <PageRecordCount>2</PageRecordCount>
  <RequestId>ADAC63DB-0691-4ECE-949A-FAEA68*****</RequestId>
  <PageNumber>1</PageNumber>
  <Items>
    <BackupLog>
      <DownloadLink>http://*****.oss-cn-hangzhou.aliyuncs.com</DownloadLink>
      <BackupLogEndTime>2020-02-12T03:55:31Z</BackupLogEndTime>
      <BackupLogId>1111111111</BackupLogId>
      <BackupLogName>ib_logfile1</BackupLogName>
      <LinkExpiredTime>2020-02-14T08:40:50Z</LinkExpiredTime>
      <BackupLogSize>1073741824</BackupLogSize>
      <IntranetDownloadLink>http://*****.oss-cn-hangzhou-internal.aliyuncs.co
m</IntranetDownloadLink>
      <BackupLogStartTime>2020-02-12T03:54:43Z</BackupLogStartTime>
    </BackupLog>
  </Items>
</DescribeBackupLogsResponse>

```

JSON format

```

{
  "TotalRecordCount": 2,
  "PageRecordCount": 2,
  "RequestId": "ADAC63DB-0691-4ECE-949A-FAEA68*****",
  "PageNumber": 1,
  "Items": {
    "BackupLog": [
      {
        "DownloadLink": "http://*****.oss-cn-hangzhou.aliyuncs.com",
        "BackupLogEndTime": "2020-02-12T03:55:31Z",
        "BackupLogId": 1111111111,
        "BackupLogName": "ib_logfile1",
        "LinkExpiredTime": "2020-02-14T08:40:50Z",
        "BackupLogSize": 1073741824,
        "IntranetDownloadLink": "http://*****.oss-cn-hangzhou-internal.aliyuncs.com",
        "BackupLogStartTime": "2020-02-12T03:54:43Z"
      }
    ]
  }
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.6. DescribeDetachedBackups

Queries the backup set details of an Apsara PolarDB cluster that has been deleted.

Before you call this operation, make sure that the Apsara PolarDB cluster is in the **Released** state. Another prerequisite is that the **Retain All Backups Permanently** or **Retain Last Automatic Backup Permanently** backup retention policy takes effect after you delete the cluster. If you delete all backup sets after the cluster is deleted, you cannot use this API operation to retrieve the cluster.

 **Note** You can call the [DescribeDBClusterAttribute](#) operation to query the cluster status.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDetachedBackups	The operation that you want to perform. Set the value to DescribeDetachedBackups .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
EndTime	String	Yes	2020-05-14T00:00Z	The end of the time range to query. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-DDThh:mmZ</code> format. The time must be in UTC.
StartTime	String	Yes	2020-05-01T00:00Z	The end of the time range to query. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-DDThh:mmZ</code> format. The time must be in UTC.
BackupId	String	No	11111111	The ID of the backup.
BackupStatus	String	No	Success	The status of the backup task. Valid values: Success: The backup task is completed. Failed: The backup task failed.

Parameter	Type	Required	Example	Description
BackupMode	String	No	Manual	The backup mode. Valid values: Automated: automatic backup Manual: manual backup
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30 50 100 Default value: 30.
PageNumber	Integer	No	1	The number of the page to return. The value must be an integer that is larger than 0. Default value: 1.

Response parameters

Parameter	Type	Example	Description
Items	Array of Backup		The details of the backup set.
Backup			
BackupEndTime	String	2020-05-12T03:25:55Z	The time when this backup task ended. The time is displayed in UTC.
BackupId	String	111111111	The ID of the backup.
BackupMethod	String	Snapshot	The backup method. Only snapshot backups are supported. The value is set to Snapshot .
BackupMode	String	Manual	The backup mode. Valid values: Automated: automatic backup Manual: manual backup

Parameter	Type	Example	Description
BackupSetSize	String	7251056	The size of the backup file. Unit: bytes.  Note After you delete the target snapshot backups, the storage space consumed by the backups is released. The released storage space is smaller than the size of the backup file, because the snapshots share certain data blocks.
BackupStartTime	String	2020-05-12T03:25:44Z	The time when this backup task started. The time is displayed in UTC.
BackupStatus	String	Success	The status of the backup task. Valid values: Success: The backup is successful. Failed: The backup task failed.
BackupType	String	FullBackup	The type of the backup. Only full backups are supported. Set the value to FullBackup .
BackupsLevel	String	Level-2	The level of the backup set. Valid values: Level-1: level-1 backup set Level-2: level-2 backup set
ConsistentTime	String	1589253947	The snapshot checkpoint time. The value is a Unix timestamp.
DBClusterId	String	pc-*****	The ID of the PolarDB cluster whose node is to be deleted.
IsAvail	String	1	Indicates whether the backup set is available. Valid values: 0: The backup set is unavailable. 1: The backup set is available.
StoreStatus	String	Disabled	Indicates whether the backup set can be deleted. Valid values: Enabled: The backup set can be deleted. Disabled: The backup set cannot be deleted.

Parameter	Type	Example	Description
PageNumber	String	1	The page number of the page returned.
PageRecordCount	String	1	The number of entries returned per page.
RequestId	String	717B2382-BB14-4DCB-BBC2-32DBE0*****	The ID of the request.
TotalRecordCount	String	1	The total number of entries returned.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDetachedBackups
&DBClusterId=pc-*****
&EndTime=2020-05-14T00:00Z
&StartTime=2020-05-01T00:00Z
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDetachedBackupsResponse>
  <TotalRecordCount>1</TotalRecordCount>
  <PageRecordCount>1</PageRecordCount>
  <RequestId>717B2382-BB14-4DCB-BBC2-32DBE0*****</RequestId>
  <PageNumber>1</PageNumber>
  <Items>
    <Backup>
      <BackupMethod>Snapshot</BackupMethod>
      <BackupMode>Manual</BackupMode>
      <BackupsLevel>Level-2</BackupsLevel>
      <DBClusterId>pc-*****</DBClusterId>
      <BackupId>62*****</BackupId>
      <IsAvail>1</IsAvail>
      <BackupSetSize>7251056</BackupSetSize>
      <StoreStatus>Enabled</StoreStatus>
      <BackupEndTime>2020-05-12T03:25:55Z</BackupEndTime>
      <BackupStartTime>2020-05-12T03:25:44Z</BackupStartTime>
      <ConsistentTime>1589253947</ConsistentTime>
      <BackupType>FullBackup</BackupType>
      <BackupStatus>Success</BackupStatus>
    </Backup>
  </Items>
</DescribeDetachedBackupsResponse>
```

JSON format

```
{
  "TotalRecordCount": 1,
  "PageRecordCount": 1,
  "RequestId": "717B2382-BB14-4DCB-BBC2-32DBE0*****",
  "PageNumber": 1,
  "Items": {
    "Backup": [
      {
        "BackupMethod": "Snapshot",
        "BackupMode": "Manual",
        "BackupsLevel": "Level-2",
        "DBClusterId": "pc-*****",
        "BackupId": "62*****",
        "IsAvail": 1,
        "BackupSetSize": 7251056,
        "StoreStatus": "Enabled",
        "BackupEndTime": "2020-05-12T03:25:55Z",
        "BackupStartTime": "2020-05-12T03:25:44Z",
        "ConsistentTime": 1589253947,
        "BackupType": "FullBackup",
        "BackupStatus": "Success"
      }
    ]
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

14.7. DescribeDBClustersWithBackups

Queries the details about the PolarDB clusters that contain backup sets and reside in a specified region.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClustersWithBackups	The operation that you want to perform. Set the value to DescribeDBClustersWithBackups .

Parameter	Type	Required	Example	Description
RegionId	String	Yes	cn-hangzhou	The ID of the region.  Note You can call the DescribeRegions operation to query region IDs.
DBClusterIds	String	No	pc-*****	The ID of the PolarDB cluster. If you need to specify multiple cluster IDs, separate the cluster IDs with commas (,).
DBClusterDescription	String	No	test	The name of the cluster. The name must meet the following requirements: - The name cannot start with <code>http://</code> or <code>https://</code>. - The name must be 2 to 256 characters in length.
DBType	String	No	MySQL	The type of the database engine. Valid values: MySQL PostgreSQL Oracle
IsDeleted	Integer	No	0	Specifies whether the cluster is deleted. Valid values: 0: not deleted 1: deleted
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30 50 100 Default value: 30s.
PageNumber	Integer	No	1	The number of the page to return. The value must be an integer that is larger than 0. Default value: 1.

Parameter	Type	Required	Example	Description
DBVersion	String	No	8.0	The version number of the database engine. Valid values: - Valid values for MySQL: 5.6 5.7 8.0 - PostgreSQL: 11. - Oracle: 11.

Response parameters

Parameter	Type	Example	Description
Items	Array of DBCluster		The details about the cluster.
DBCluster			
CreateTime	String	2020-05-09T09:33:51Z	The time when the cluster was created.
DBClusterDescription	String	test	The name of the cluster.
DBClusterId	String	pc-*****	The ID of the cluster.
DBClusterNetworkType	String	VPC	The network type of the cluster.

Parameter	Type	Example	Description
DBClusterStatus	String	Running	The status of the cluster. Valid values: - Creating: The cluster is being created. - Running: The cluster is running. - Deleting: The cluster is being released. - Rebooting: The cluster is restarting. - DBNodeCreating: The node is being added to the cluster. - DBNodeDeleting: The node is being removed from the cluster. - ClassChanging: The node specification is being changed. - NetAddressCreating: The network connection is being created. - NetAddressDeleting: The network connection is being deleted. - NetAddressModifying: The network connection is being modified. - Deleted: The cluster is deleted.
DBNodeClass	String	polar.mysql.x4.medium	The specification of the node.
DBType	String	MySQL	The engine of the database.
DBVersion	String	8.0	The version of the database engine.
DeletedTime	String	2020-05-12T03:25:37Z	The time when the cluster was deleted.
DeletionLock	Integer	0	Indicates whether the cluster is locked and can be deleted. Valid values: 0: The cluster is not locked and can be deleted. 1: The cluster is locked and cannot be deleted.
Engine	String	POLARDB	The engine of the cluster.

Parameter	Type	Example	Description
ExpireTime	String	2019-09-14T16:00:00Z	The expiration time of the cluster.  Note A specific value will be returned only for subscription clusters. For pay-as-you-go clusters, an empty string will be returned.
Expired	String	false	Indicates whether the cluster expired.  Note A specific value will be returned only for subscription clusters.
IsDeleted	Integer	1	Indicates whether the cluster was deleted. Valid values: 1: deleted 0: not deleted
LockMode	String	Unlock	The lock mode of the cluster. Valid values: Unlock: The instance is not locked. ManualLock: The instance is manually locked. LockByExpiration: The cluster is automatically locked after the cluster expires.
PayType	String	Postpaid	The billing method. Valid values: Postpaid: pay-as-you-go Prepaid: subscription
RegionId	String	cn-hangzhou	The ID of the region.
VpcId	String	vpc-*****	The ID of the virtual private cloud (VPC).
ZoneId	String	cn-hangzhou-h	The zone ID of the cluster.
PageNumber	Integer	1	The page number of the returned page.

Parameter	Type	Example	Description
PageRecordCount	Integer	1	The number of clusters that are returned on the current page.
RequestId	String	F8529AA2-522F-4B30-B80B-8F7D39*****	The ID of the request.
TotalRecordCount	Integer	1	The total number of entries returned.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClustersWithBackups
&RegionId=cn-hangzhou
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClustersWithBackupsResponse>
  <TotalRecordCount>1</TotalRecordCount>
  <PageRecordCount>1</PageRecordCount>
  <RequestId>F8529AA2-522F-4B30-B80B-8F7D39*****</RequestId>
  <PageNumber>1</PageNumber>
  <Items>
    <DBCluster>
      <IsDeleted>1</IsDeleted>
      <ZoneId>cn-hangzhou-h</ZoneId>
      <DeletedTime>2020-05-12T03:25:37Z</DeletedTime>
      <DBClusterStatus>Deleted</DBClusterStatus>
      <CreateTime>2020-05-09T09:33:51Z</CreateTime>
      <DBClusterId>pc-*****</DBClusterId>
      <DBClusterDescription>pc-*****</DBClusterDescription>
      <PayType>Postpaid</PayType>
      <DBClusterNetworkType>VPC</DBClusterNetworkType>
      <DBType>MySQL</DBType>
      <LockMode>Unlock</LockMode>
      <DBNodeClass>polar.mysql.x4.medium</DBNodeClass>
      <DBVersion>5.6</DBVersion>
      <VpcId>vpc-*****</VpcId>
      <RegionId>cn-hangzhou</RegionId>
      <Engine>POLARDB</Engine>
    </DBCluster>
  </Items>
</DescribeDBClustersWithBackupsResponse>
```

JSON format

```
{
  "TotalRecordCount": 1,
  "PageRecordCount": 1,
  "RequestId": "F8529AA2-522F-4B30-B80B-8F7D39*****",
  "PageNumber": 1,
  "Items": {
    "DBCluster": [
      {
        "IsDeleted": 1,
        "ZoneId": "cn-hangzhou-h",
        "DeletedTime": "2020-05-12T03:25:37Z",
        "DBClusterStatus": "Deleted",
        "CreateTime": "2020-05-09T09:33:51Z",
        "DBClusterId": "pc-*****",
        "DBClusterDescription": "pc-*****",
        "PayType": "Postpaid",
        "DBClusterNetworkType": "VPC",
        "DBType": "MySQL",
        "LockMode": "Unlock",
        "DBNodeClass": "polar.mysql.x4.medium",
        "DBVersion": "5.6",
        "VpcId": "vpc-*****",
        "RegionId": "cn-hangzhou",
        "Engine": "POLARDB"
      }
    ]
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

15.Tag management

15.1. TagResources

Creates tags for one or more PolarDB clusters.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	TagResources	The operation that you want to perform. Set the value to TagResources .
RegionId	String	Yes	cn-hangzhou	The ID of the region.
ResourceId.N	RepeatList	Yes	pc- *****	The ID of the PolarDB cluster for which tags are to be created. To create tags for multiple clusters at a time, click the plus sign (+) icon to add cluster IDs. Note You can create tags for a maximum of 50 clusters at a time.
ResourceType	String	Yes	cluster	The type of the resource. Set the value to cluster .
Tag.N.Key	String	No	type	The key of the tag. To create multiple tags for a cluster at a time, click Add to add tags. Note You can create up to 20 key-value pairs of tags at a time. Each value of the <code>Tag.n.Key</code> parameter is paired with a value of the <code>Tag.n.Value</code> parameter.

Parameter	Type	Required	Example	Description
Tag.N.Value	String	No	test	The value of the tag. To create multiple tags for a cluster at a time, click Add to add tags. Note You can create up to 20 key-value pairs of tags at a time. Each value of the <code>Tag.n.Value</code> parameter is paired with a value of the <code>Tag.n.Key</code> parameter.

Response parameters

Parameter	Type	Example	Description
RequestId	String	1CB5286F-AF5A-4E09-BFE9-588D4C*****	The ID of the request.

Examples

Sample requests

```
https://polardb.aliyuncs.com/? Action=TagResources?Action=TagResources
&RegionId=cn-hangzhou
&ResourceId.1=pc-*****
&ResourceType=cluster
&<Common request parameters>
```

Sample success responses

XML format

```
<TagResourcesResponse>
  <RequestId>1CB5286F-AF5A-4E09-BFE9-588D4C*****</RequestId>
</TagResourcesResponse>
```

JSON format

```
{
  "RequestId": "1CB5286F-AF5A-4E09-BFE9-588D4C*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

15.2. UntagResources

Detaches tags from PolarDB clusters.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	UntagResources	The operation that you want to perform. Set the value to UntagResources .
RegionId	String	Yes	cn-hangzhou	The ID of the region. Note You can call the DescribeRegions operation to query the available regions.
ResourceId.N	RepeatList	Yes	pc-*****	The ID of the cluster from which you want to detach tags. To detach tags from multiple clusters at a time, click the plus sign (+) icon to add cluster IDs. Note You can detach tags from a maximum of 50 clusters at a time.
ResourceType	String	Yes	cluster	The type of the resource. Set the value to cluster .
TagKey.N	RepeatList	No	type	The tag key. To detach multiple tags from a cluster at a time, click the plus sign (+) icon to add tag keys. Note You can add up to 20 tag keys at a time.

Parameter	Type	Required	Example	Description
All	Boolean	No	true	Specifies whether to detach all the tags from the cluster. Valid values: true or false. Default value: false.  Note This parameter only takes effect when the value of the <code>TagKey.n</code> parameter is empty.

Response parameters

Parameter	Type	Example	Description
RequestId	String	2D69A58F-345C-4FDE-88E4-BF5189*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=UntagResources
&RegionId=cn-hangzhou
&ResourceId.1=pc-*****
&ResourceType=cluster
&<Common request parameters>
```

Sample success responses

XML format

```
<UntagResourcesResponse>
  <RequestId>2D69A58F-345C-4FDE-88E4-BF5189*****</RequestId>
</UntagResourcesResponse>
```

JSON format

```
{
  "RequestId": "2D69A58F-345C-4FDE-88E4-BF5189*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

15.3. ListTagResources

Queries the tags that are attached to one or more PolarDB clusters, or queries the PolarDB clusters to which one or more tags are attached.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ListTagResources	The operation that you want to perform. Set the value to ListTagResources .
RegionId	String	Yes	cn-hangzhou	The ID of the region. You can call the DescribeRegions operation to query the most recent region list.
ResourceType	String	Yes	cluster	The type of the resource. Set the value to cluster .
ResourceId.N	RepeatList	No	pc-*****	The ID of the cluster. To query the tags of multiple clusters, click the plus sign (+) icon to add cluster IDs. Note - You must specify at least one of the <code>ResourceId.N</code> and <code>Tag.N.Key</code> parameters. - If you specify the <code>ResourceId.N</code> parameter, you can add a maximum of 50 cluster IDs at a time.

Parameter	Type	Required	Example	Description
Tag.N.Key	String	No	type	The key of the tag. To query the details of clusters to which multiple tags are attached, click the plus sign (+) icon to add tags. Note - You must specify at least one of the <code>ResourceId.N</code> and <code>Tag.N.Key</code> parameters. - If you specify the <code>Tag.N.Key</code> parameter, you can add up to 20 key-value pairs of tags at a time.
Tag.N.Value	String	No	test	The tag value that is paired with the tag key. This parameter can be an empty string.
NextToken	String	No	212db86sca4384811e0b5e8707e****	The token that is used to obtain more results. This parameter is not required in the first query. If the first query does not return all results, you can use the token that is returned from the first query in the next query to obtain more results.

Response parameters

Parameter	Type	Example	Description
NextToken	String	212db86sca4384811e0b5e8707e*****	The token that was used to obtain more results. If not all results are returned in this query, the token is returned. You can use this token in the next query to obtain more results.
RequestId	String	688C04E4-23F8-409F-8A38-B954D5*****	The ID of the request.
TagResources	Array of TagResource		The information about the clusters and tags that were queried.
TagResource			

Parameter	Type	Example	Description
ResourceId	String	pc-*****	The ID of the cluster.
ResourceType	String	cluster	The type of the resource. The returned value is cluster .
TagKey	String	type	The key of the tag.
TagValue	String	test	The value of the tag.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ListTagResources
&RegionId=cn-hangzhou
&ResourceType=cluster
&<Common request parameters>
```

Sample success responses

XML format

```
<ListTagResourcesResponse>
  <RequestId>688C04E4-23F8-409F-8A38-B954D5*****</RequestId>
  <TagResources>
    <TagResource>
      <ResourceId>pc-*****</ResourceId>
      <TagKey>type</TagKey>
      <ResourceType>cluster</ResourceType>
      <TagValue>test</TagValue>
    </TagResource>
  </TagResources>
</ListTagResourcesResponse>
```

JSON format

```
{
  "RequestId": "688C04E4-23F8-409F-8A38-B954D5*****",
  "TagResources": {
    "TagResource": [
      {
        "ResourceId": "pc-*****",
        "TagKey": "type",
        "ResourceType": "cluster",
        "TagValue": "test"
      }
    ]
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

16. Pending events

16.1.

DescribePendingMaintenanceAction

Queries the details of a pending event.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer automatically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribePendingMaintenanceAction	The operation that you want to perform. Set the value to DescribePendingMaintenanceAction .
Region	String	Yes	all	The ID of the region to which the pending event belongs. You can call the DescribeRegions operation to query the regions and zones that are supported by PolarDB.  Note - You can set this parameter to all to view all pending events within your account. - If the <code>Region</code> parameter is set to all, the <code>TaskType</code> parameter must be set to all.
RegionId	String	No	cn-hangzhou	The ID of the region.

Parameter	Type	Required	Example	Description
TaskType	String	Yes	all	The type of the pending event. Valid values: DatabaseSoftwareUpgrading: database software upgrades. DatabaseHardwareMaintenance: hardware maintenance and upgrades. DatabaseStorageUpgrading: database storage upgrades. DatabaseProxyUpgrading: minor version upgrades of the proxy. all: queries the details of the pending events of all preceding types.  Note If the <code>Region</code> parameter is set to <code>all</code>, the <code>TaskType</code> parameter must be set to <code>all</code>.
IsHistory	Integer	No	0	Specifies whether to return the historical tasks. Valid values: 0: returns the current task. 1: returns the historical tasks. Default value: 0.
PageSize	Integer	No	30	The number of entries to return on each page. Valid values: 30, 50, and 100. Default value: 30
PageNumber	Integer	No	1	The number of the page to return. The value must be an integer that is larger than 0. Default value: 1.

Response parameters

Parameter	Type	Example	Description
Items	Array of Items		The list of tasks.

Parameter	Type	Example	Description
CreatedTime	String	2020-06-09T22:00:42Z	The time when the task was created. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
DBClusterId	String	pc-*****	The ID of the cluster.
DBType	String	MySQL	The type of the database engine. Valid values: - MySQL - PostgreSQL - Oracle
DBVersion	String	8.0	The version number of the database engine. Valid values: - MySQL: 5.6 5.7 8.0 - PostgreSQL: 11. - Oracle: 11.
Deadline	String	2020-06-11T15:59:59Z	The deadline before which the task can be executed. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
Id	Integer	111111	The ID of the task.
ModifiedTime	String	2020-06-09T22:00:42Z	The time when the instance was created. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
PrepareInterval	String	04:00:00	The preparation time that is required before the pending event is switched. The time follows the <code>HH:mm:ss</code> format.
Region	String	cn-hangzhou	The ID of the region to which the task belongs.

Parameter	Type	Example	Description
ResultInfo	String	manualCancel	The execution result of the task. Valid values: manualCancel: The task is manually canceled. paramCheckNotPass: The task fails to pass the parameter check.  Note This parameter is returned only when the value of the <code>Status</code> parameter is 6 or 7. The value 6 indicates that the task is completed but fails to be executed. The value 7 indicates that the task is canceled.
StartTime	String	2020-06-09T18:00:00Z	The time when the task was executed in the background. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
Status	Integer	3	The status of the task. - If you set the <code>IsHistory</code> parameter to 0, the status of the pending task is returned. Valid values: 2: The start time of the task is to be specified. 3: The task is pending. 4: The task is running. In this case, you cannot modify the execution time. - If you set the <code>IsHistory</code> parameter to 1, the details of the historical tasks are returned. Valid values: 5: The task is completed and executed. 6: The task is completed but fails to be executed. 7: The task is canceled.
SwitchTime	String	2020-06-09T22:00:00Z	The time when the pending event was switched. The time follows the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time is displayed in UTC.
TaskType	String	DatabaseSoftwareUpgrading	The type of the pending event.

Parameter	Type	Example	Description
PageNumber	Integer	1	The page number of the returned page.
PageSize	Integer	30	The number of entries returned per page.
RequestId	String	2F029645-FED9-4FE8-A6D3-488954*****	The ID of the request.
TotalRecordCount	Integer	1	The total number of entries.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribePendingMaintenanceAction
&Region=all
&TaskType=all
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribePendingMaintenanceActionResponse>
  <TotalRecordCount>1</TotalRecordCount>
  <PageSize>30</PageSize>
  <RequestId>2F029645-FED9-4FE8-A6D3-488954*****</RequestId>
  <PageNumber>1</PageNumber>
  <Items>
    <Status>3</Status>
    <CreatedTime>2020-06-09T22:00:42Z</CreatedTime>
    <Deadline>2020-06-11T15:59:59Z</Deadline>
    <StartTime>2020-06-09T18:00:00Z</StartTime>
    <DBClusterId>pc-*****</DBClusterId>
    <DBType>MySQL</DBType>
    <DBVersion>8.0</DBVersion>
    <ModifiedTime>2020-06-09T22:00:42Z</ModifiedTime>
    <TaskType>DatabaseSoftwareUpgrading</TaskType>
    <Region>cn-hangzhou</Region>
    <PrepareInterval>04:00:00</PrepareInterval>
    <Id>111111</Id>
    <SwitchTime>2020-06-09T22:00:00Z</SwitchTime>
  </Items>
</DescribePendingMaintenanceActionResponse>
```

JSON format

```
{
  "TotalRecordCount": "1",
  "PageSize": "30",
  "RequestId": "2F029645-FED9-4FE8-A6D3-488954*****",
  "PageNumber": "1",
  "Items": [{
    "Status": "3",
    "CreatedTime": "2020-06-09T22:00:42Z",
    "Deadline": "2020-06-11T15:59:59Z",
    "StartTime": "2020-06-09T18:00:00Z",
    "DBClusterId": "pc-*****",
    "DBType": "MySQL",
    "DBVersion": "8.0",
    "ModifiedTime": "2020-06-09T22:00:42Z",
    "TaskType": "DatabaseSoftwareUpgrading",
    "Region": "cn-hangzhou",
    "PrepareInterval": "04:00:00",
    "Id": "111111",
    "SwitchTime": "2020-06-09T22:00:00Z"
  }]
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

16.2. DescribePendingMaintenanceActions

Queries the numbers of pending events in different task types.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribePendingMaintenanceActions	The operation that you want to perform. Set the value to DescribePendingMaintenanceActions .

Parameter	Type	Required	Example	Description
RegionId	String	Yes	cn-hangzhou	The ID of the region.  Note If the database engine of the PolarDB cluster is PolarDB for Oracle or the PolarDB for PostgreSQL, this parameter is required. If the database engine of the PolarDB cluster is the PolarDB for MySQL, this parameter is optional.
IsHistory	Integer	No	1	Specifies whether to return the historical tasks. Valid values: • 0: returns the current task. • 1: returns the historical tasks. Default value: 0.

Response parameters

Parameter	Type	Example	Description
RequestId	String	314127C2-B6C1-4F58-B1F6-E6B645*****	The ID of the request.
TypeList	Array of Items		The details of pending events.
TaskType	String	DatabaseSoftwareUpgrading	The task type of pending events. Valid values: • DatabaseSoftwareUpgrading: database software upgrades • DatabaseHardwareMaintenance: hardware maintenance and upgrades • DatabaseStorageUpgrading: database storage upgrades • DatabaseProxyUpgrading: minor version upgrades of the proxy
Count	Integer	1	The number of pending events.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/?Action=DescribePendingMaintenanceActions
&<Common request parameters>
```

Sample success responses

XML format

```
HTTP/1.1 200 OK
Content-Type:application/xml
<DescribePendingMaintenanceActionsResponse>
<RequestId>314127C2-B6C1-4F58-B1F6-E6B645*****</RequestId>
<TypeList>
  <TaskType>DatabaseSoftwareUpgrading</TaskType>
  <Count>1</Count>
</TypeList>
</DescribePendingMaintenanceActionsResponse>
```

JSON format

```
HTTP/1.1 200 OK
Content-Type:application/json
{
  "RequestId" : "314127C2-B6C1-4F58-B1F6-E6B645*****",
  "TypeList" : [ {
    "TaskType" : "DatabaseSoftwareUpgrading",
    "Count" : 1
  } ]
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

16.3. ModifyPendingMaintenanceAction

Modifies the switch time of a pending event.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
Action	String	No	ModifyPendingMaintenanceAction	The operation that you want to perform. Set the value to ModifyPendingMaintenanceAction .
Ids	String	Yes	111111	The ID of the task that you want to modify. You can specify multiple task IDs at a time to modify the switch time of the tasks in a unified manner. The task IDs must be separated with commas (,).
SwitchTime	String	Yes	2020-06-09T22:00:00Z	The time point that you specify for the background to perform the action that corresponds to the pending event. Specify the time in the <code>yyyy-MM-ddTHH:mmZ</code> format. The time must be in UTC.
RegionId	String	No	cn-hangzhou	The ID of the region.

Response parameters

Parameter	Type	Example	Description
Ids	String	111111	The ID of the task.
RequestId	String	93061E17-B56A-4324-BC95-D0FFD2*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=ModifyPendingMaintenanceAction
&Ids=111111
&SwitchTime=2020-06-09T22:00:00Z
&<Common request parameters>
```

Sample success responses

`XML` format

```
<ModifyPendingMaintenanceActionResponse>
  <RequestId>93061E17-B56A-4324-BC95-D0FFD2*****</RequestId>
  <Ids>111111</Ids>
</ModifyPendingMaintenanceActionResponse>
```

JSON **format**

```
{
  "RequestId": "93061E17-B56A-4324-BC95-D0FFD2*****",
  "Ids": 111111
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

17. Monitoring management

17.1. DescribeDBNodePerformance

Queries the performance data of a node in a PolarDB cluster.

- The monitoring data is collected once every 5 seconds:
 - If the query time range is less than or equal to 1 hour, the data is displayed at intervals of 5 seconds.
 - If the query time range is less than or equal to 1 day, the data is displayed at intervals of 1 minute.
 - If the query time range is less than or equal to 7 days, the data is displayed at intervals of 10 minutes.
 - If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
 - If the query time range is greater than 30 days, the data is displayed at intervals of 1 day.
- The monitoring data is collected once every 60 seconds:
 - If the query time range is less than or equal to 1 day, the data is displayed at intervals of 1 minute.
 - If the query time range is less than or equal to 7 days, the data is displayed at intervals of 10 minutes.
 - If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
 - When the query time range is greater than 30 days, the data is displayed at intervals of 1 day.

 **Note** By default, the monitoring data is collected once every 60 seconds. You can call the **ModifyDBClusterMonitor** operation to set the data collection interval to every 5 seconds.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBNodePerformance	The operation that you want to perform. Set the value to DescribeDBNodePerformance .
DBNodeid	String	Yes	pi-*****	The ID of the cluster node.

Parameter	Type	Required	Example	Description
EndTime	String	Yes	2020-09-23T01:01Z	The end of the time range to query. Specify the time in the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mmZ</code> format. The time must be in UTC.
Key	String	Yes	PolarDBDiskUsage	The performance indicators that you want to query. Separate multiple indicators with commas (.). For more information, see Performance parameters . Note You can specify a maximum of five performance indicators.
StartTime	String	Yes	2020-09-23T01:00Z	The beginning of the time range to query. Specify the time in the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mmZ</code> format. The time must be in UTC.
DBClusterId	String	No	pc-*****	The ID of the cluster.

Response parameters

Parameter	Type	Example	Description
DBNodeId	String	pi-*****	The ID of the cluster node.
DBType	String	MySQL	The type of the database engine.
DBVersion	String	8.0	The version number of the database engine.
EndTime	String	2020-09-23T01:01:00Z	The end of the time range to query. Specify the time in the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC.

Parameter	Type	Example	Description
PerformanceKeys	Array of PerformanceItem		The list of cluster performance indicators.
PerformanceItem			
Measurement	String	PolarDBDiskUsage	The performance indicator.
MetricName	String	mean_sys_dir_size	The name of the metric.
Points	Array of PerformanceItemValue		The array of performance metrics.
PerformanceItemValue			
Timestamp	Long	1600822800000	The timestamp of the metric. This value is a UNIX timestamp. Unit: millisecond.
Value	String	9.33	The value of the metric data.
RequestId	String	E2FDB684-751D-424D-98B9-704BEA*****	The ID of the request.
StartTime	String	2020-09-23T01:00:00Z	The beginning of the time range to query. Specify the time in the ISO 8601 standard in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBNodePerformance
&DBNodeId=pi-*****
&EndTime=2020-09-23T01:01Z
&Key=PolarDBDiskUsage
&StartTime=2020-09-23T01:00Z
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBNodePerformanceResponse>
```

```
<PerformanceKeys>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_binlog_size</MetricName>
    <Points>
      <PerformanceItemValue>
        <Value>0.00</Value>
        <Timestamp>1600822800000</Timestamp>
      </PerformanceItemValue>
    </Points>
  </PerformanceItem>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_data_size</MetricName>
    <Points>
      <PerformanceItemValue>
        <Value>42.38</Value>
        <Timestamp>1600822800000</Timestamp>
      </PerformanceItemValue>
    </Points>
  </PerformanceItem>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_log_size</MetricName>
    <Points>
      <PerformanceItemValue>
        <Value>4393.63</Value>
        <Timestamp>1600822800000</Timestamp>
      </PerformanceItemValue>
    </Points>
  </PerformanceItem>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_other_log_size</MetricName>
    <Points>
      <PerformanceItemValue>
        <Value>1.63</Value>
        <Timestamp>1600822800000</Timestamp>
      </PerformanceItemValue>
    </Points>
  </PerformanceItem>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_redolog_size</MetricName>
    <Points>
      <PerformanceItemValue>
        <Value>4096.00</Value>
        <Timestamp>1600822800000</Timestamp>
      </PerformanceItemValue>
    </Points>
  </PerformanceItem>
  <PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_sys_dir_size</MetricName>
```

```

        <Points>
            <PerformanceItemValue>
                <Value>9.33</Value>
                <Timestamp>1600822800000</Timestamp>
            </PerformanceItemValue>
        </Points>
    </PerformanceItem>
    <PerformanceItem>
        <Measurement>PolarDBDiskUsage</Measurement>
        <MetricName>mean_tmp_dir_size</MetricName>
        <Points>
            <PerformanceItemValue>
                <Value>0.00</Value>
                <Timestamp>1600822800000</Timestamp>
            </PerformanceItemValue>
        </Points>
    </PerformanceItem>
    <PerformanceItem>
        <Measurement>PolarDBDiskUsage</Measurement>
        <MetricName>mean_undolog_size</MetricName>
        <Points>
            <PerformanceItemValue>
                <Value>296.00</Value>
                <Timestamp>1600822800000</Timestamp>
            </PerformanceItemValue>
        </Points>
    </PerformanceItem>
</PerformanceKeys>
<DBVersion>8.0</DBVersion>
<RequestId>E2FDB684-751D-424D-98B9-704BEA*****</RequestId>
<EndTime>2020-09-23T01:01:00Z</EndTime>
<StartTime>2020-09-23T01:00:00Z</StartTime>
<DBNodeId>pi-*****</DBNodeId>
<DBType>MySQL</DBType>
</DescribeDBNodePerformanceResponse>

```

JSON format

```

{
  "PerformanceKeys": {
    "PerformanceItem": [
      {
        "Measurement": "PolarDBDiskUsage",
        "MetricName": "mean_binlog_size",
        "Points": {
          "PerformanceItemValue": [
            {
              "Value": "0.00",
              "Timestamp": 1600822800000
            }
          ]
        }
      }
    ]
  },
  "DBVersion": "8.0",
  "RequestId": "E2FDB684-751D-424D-98B9-704BEA*****",
  "EndTime": "2020-09-23T01:01:00Z",
  "StartTime": "2020-09-23T01:00:00Z",
  "DBNodeId": "pi-*****",
  "DBType": "MySQL"
}

```

```

    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_data_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "42.38",
          "Timestamp": 1600822800000
        }
      ]
    }
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_log_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "4393.63",
          "Timestamp": 1600822800000
        }
      ]
    }
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_other_log_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "1.63",
          "Timestamp": 1600822800000
        }
      ]
    }
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_redolog_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "4096.00",
          "Timestamp": 1600822800000
        }
      ]
    }
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_sys_dir_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "9.33",

```

```

        "Timestamp": 1600822800000
      }
    ]
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_tmp_dir_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "0.00",
          "Timestamp": 1600822800000
        }
      ]
    }
  },
  {
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_undolog_size",
    "Points": {
      "PerformanceItemValue": [
        {
          "Value": "296.00",
          "Timestamp": 1600822800000
        }
      ]
    }
  }
]
},
"DBVersion": "8.0",
"RequestId": "E2FDB684-751D-424D-98B9-704BEA*****",
"EndTime": "2020-09-23T01:01:00Z",
"StartTime": "2020-09-23T01:00:00Z",
"DBNodeId": "pi-*****",
"DBType": "MySQL"
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

17.2. DescribeDBClusterMonitor

Queries the interval for collecting monitoring data of a PolarDB cluster.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterMonitor	The operation that you want to perform. Set the value to DescribeDBClusterMonitor .
DBClusterId	String	Yes	pc-*****	The ID of the PolarDB cluster.

Response parameters

Parameter	Type	Example	Description
Period	String	60	The interval at which monitoring data is collected. Unit: seconds.
RequestId	String	593AE1C5-B70C-463F-9207-074639*****	The ID of the request.

Examples

Sample requests

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterMonitor
&DBClusterId=pc-*****
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClusterMonitorResponse>
  <RequestId>593AE1C5-B70C-463F-9207-074639*****</RequestId>
  <Period>60</Period>
</DescribeDBClusterMonitorResponse>
```

JSON format

```
{
  "RequestId": "593AE1C5-B70C-463F-9207-074639*****",
  "Period": "60"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

17.3. DescribeDBClusterPerformance

Queries the performance data of a PolarDB cluster.

- The monitoring data is collected once every 5 seconds:
 - If the query time range is less than or equal to 1 hour, the data is displayed at intervals of 5 seconds.
 - If the query time range is less than or equal to one day, the data is displayed at intervals of 1 minute.
 - If the query time range is less than or equal to seven days, the data is displayed at intervals of 10 minutes.
 - If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
 - When the query time range is greater than 30 days, the data is displayed at intervals of 1 day.
- The monitoring data is collected once every 60 seconds:
 - If the query time range is less than or equal to one day, the data is displayed at intervals of 1 minute.
 - If the query time range is less than or equal to seven days, the data is displayed at intervals of 10 minutes.
 - If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
 - When the query time range is greater than 30 days, the data is displayed at intervals of 1 day.

 **Note** By default, the monitoring data is collected once every 60 seconds. You can call the `ModifyDBClusterMonitor` operation to set the data collection interval to every 5 seconds.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	DescribeDBClusterPerformance	The operation that you want to perform. Set the value to DescribeDBClusterPerformance .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
EndTime	String	Yes	2020-09-23T01:00Z	The end of the time range to query. The time is in the <code>yyyy-MM-ddTHH:mmZ</code> format. The time is displayed in UTC.

Parameter	Type	Required	Example	Description
Key	String	Yes	PolarDBDiskUsage	The performance indicators that you want to query. Separate multiple indicators with commas (.). For more information, see Performance parameters.  Note You can specify a maximum of five performance indicators.
StartTime	String	Yes	2020-09-23T01:01Z	The beginning of the time range to query. Specify the time in the <code>yyyy-MM-ddTHH:mmZ</code> format. The time must be in UTC.

Response parameters

Parameter	Type	Example	Description
DBClusterId	String	pc-*****	The ID of the cluster.
DBType	String	MySQL	The type of the database engine.
DBVersion	String	8.0	The version number of the database engine.
EndTime	String	2020-09-23T01:01:00Z	The end of the time range to query. Specify the time in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC.
PerformanceKeys	Array of PerformanceItem		The list of cluster performance items.
PerformanceItem			
DBNodeId	String	pi-*****	The ID of the cluster node.  Note The value of this parameter is not returned if <code>Key</code> is set to <code>PolarDBDiskUsage</code>.

Parameter	Type	Example	Description
Measurement	String	PolarDBDiskUsage	The performance indicator.
MetricName	String	mean_data_size	The name of the metric.
Points	Array of PerformanceItemValue		The array of performance metrics.
PerformanceItemValue			
Timestamp	Long	1600822800000	The timestamp of the metric. This value is a timestamp. Unit: milliseconds.
Value	String	42.38	The value of the metric data.
RequestId	String	35D3E3DA-4650-407A-BFF5-59BFF1*****	The ID of the request.
StartTime	String	2020-09-23T01:00:00Z	The beginning of the time range to query. Specify the time in the <code>yyyy-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=DescribeDBClusterPerformance
&DBClusterId=pc-*****
&EndTime=2020-09-23T01:00Z
&Key=PolarDBDiskUsage
&StartTime=2020-09-23T01:01Z
&<Common request parameters>
```

Sample success responses

XML format

```
<DescribeDBClusterPerformanceResponse>
  <PerformanceKeys>
    <PerformanceItem>
      <Measurement>PolarDBDiskUsage</Measurement>
      <MetricName>mean_binlog_size</MetricName>
      <Points>
        <PerformanceItemValue>
```

```

        <value>0.00</value>
        <Timestamp>1600822800000</Timestamp>
    </PerformanceItemValue>
</Points>
</PerformanceItem>
<PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_data_size</MetricName>
    <Points>
        <PerformanceItemValue>
            <Value>42.38</Value>
            <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
    </Points>
</PerformanceItem>
<PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_log_size</MetricName>
    <Points>
        <PerformanceItemValue>
            <Value>4393.63</Value>
            <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
    </Points>
</PerformanceItem>
<PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_other_log_size</MetricName>
    <Points>
        <PerformanceItemValue>
            <Value>1.63</Value>
            <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
    </Points>
</PerformanceItem>
<PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_redolog_size</MetricName>
    <Points>
        <PerformanceItemValue>
            <Value>4096.00</Value>
            <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
    </Points>
</PerformanceItem>
<PerformanceItem>
    <Measurement>PolarDBDiskUsage</Measurement>
    <MetricName>mean_sys_dir_size</MetricName>
    <Points>
        <PerformanceItemValue>
            <Value>11.47</Value>
            <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
    </Points>
</PerformanceItem>

```

```

    <PerformanceItem>
      <Measurement>PolarDBDiskUsage</Measurement>
      <MetricName>mean_tmp_dir_size</MetricName>
      <Points>
        <PerformanceItemValue>
          <Value>0.00</Value>
          <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
      </Points>
    </PerformanceItem>
    <PerformanceItem>
      <Measurement>PolarDBDiskUsage</Measurement>
      <MetricName>mean_undolog_size</MetricName>
      <Points>
        <PerformanceItemValue>
          <Value>296.00</Value>
          <Timestamp>1600822800000</Timestamp>
        </PerformanceItemValue>
      </Points>
    </PerformanceItem>
  </PerformanceKeys>
  <DBVersion>8.0</DBVersion>
  <RequestId>35D3E3DA-4650-407A-BFF5-59BFF1*****</RequestId>
  <EndTime>2020-09-23T01:01:00Z</EndTime>
  <DBClusterId>pc-*****</DBClusterId>
  <StartTime>2020-09-23T01:00:00Z</StartTime>
  <DBType>MySQL</DBType>
</DescribeDBClusterPerformanceResponse>

```

JSON format

```

{
  "PerformanceKeys": {
    "PerformanceItem": [
      {
        "Measurement": "PolarDBDiskUsage",
        "MetricName": "mean_binlog_size",
        "Points": {
          "PerformanceItemValue": [
            {
              "Value": "0.00",
              "Timestamp": 1600822800000
            }
          ]
        }
      },
      {
        "Measurement": "PolarDBDiskUsage",
        "MetricName": "mean_data_size",
        "Points": {
          "PerformanceItemValue": [
            {
              "Value": "42.38",

```

```

        "Timestamp": 1600822800000
    }
    ]
}
},
{
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_log_size",
    "Points": {
        "PerformanceItemValue": [
            {
                "Value": "4393.63",
                "Timestamp": 1600822800000
            }
        ]
    }
},
{
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_other_log_size",
    "Points": {
        "PerformanceItemValue": [
            {
                "Value": "1.63",
                "Timestamp": 1600822800000
            }
        ]
    }
},
{
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_redolog_size",
    "Points": {
        "PerformanceItemValue": [
            {
                "Value": "4096.00",
                "Timestamp": 1600822800000
            }
        ]
    }
},
{
    "Measurement": "PolarDBDiskUsage",
    "MetricName": "mean_sys_dir_size",
    "Points": {
        "PerformanceItemValue": [
            {
                "Value": "11.47",
                "Timestamp": 1600822800000
            }
        ]
    }
},
{
    "Measurement": "PolarDBDiskUsage",

```

```

      "Measurement": "PolarDBDiskUsage",
      "MetricName": "mean_tmp_dir_size",
      "Points": {
        "PerformanceItemValue": [
          {
            "Value": "0.00",
            "Timestamp": 1600822800000
          }
        ]
      }
    },
    {
      "Measurement": "PolarDBDiskUsage",
      "MetricName": "mean_undolog_size",
      "Points": {
        "PerformanceItemValue": [
          {
            "Value": "296.00",
            "Timestamp": 1600822800000
          }
        ]
      }
    }
  ]
},
"DBVersion": "8.0",
"RequestId": "35D3E3DA-4650-407A-BFF5-59BFF1*****",
"EndTime": "2020-09-23T01:01:00Z",
"DBClusterId": "pc-*****",
"StartTime": "2020-09-23T01:00:00Z",
"DBType": "MySQL"
}

```

Error codes

For a list of error codes, visit the [API Error Center](#).

17.4. ModifyDBClusterMonitor

Modifies the interval for collecting monitoring data of a PolarDB cluster.

- The monitoring data is collected once every 5 seconds:
 - If the query time range is less than or equal to 1 hour, the data is displayed at intervals of 5 seconds.
 - If the query time range is less than or equal to 1 day, the data is displayed at intervals of 1 minute.
 - If the query time range is less than or equal to 7 days, the data is displayed at intervals of 10 minutes.
 - If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
 - If the query time range is greater than 30 days, the data is displayed at intervals of 1 day.
- The monitoring data is collected once every 60 seconds:
 - If the query time range is less than or equal to 1 day, the data is displayed at intervals of 1 minute.

- If the query time range is less than or equal to 7 days, the data is displayed at intervals of 10 minutes.
- If the query time range is less than or equal to 30 days, the data is displayed at intervals of 1 hour.
- When the query time range is greater than 30 days, the data is displayed at intervals of 1 day.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	No	ModifyDBClusterMonitor	The operation that you want to perform. Set the value to ModifyDBClusterMonitor .
DBClusterId	String	Yes	pc-*****	The ID of the cluster.
Period	String	Yes	5	The interval at which monitoring data is collected. Valid values: 5 or 60. Unit: seconds.

Response parameters

Parameter	Type	Example	Description
RequestId	String	75B92353-73B4-447B-8477-C85F3C*****	The ID of the request.

Examples

Sample request

```
http(s)://polardb.aliyuncs.com/? Action=ModifyDBClusterMonitor
&DBClusterId=pc-*****
&Period=5
&<Common request parameters>
```

Sample success responses

XML format

```
<ModifyDBClusterMonitorResponse>
  <RequestId>75B92353-73B4-447B-8477-C85F3C*****</RequestId>
</ModifyDBClusterMonitorResponse>
```

JSON **format**

```
{
  "RequestId": "75B92353-73B4-447B-8477-C85F3C*****"
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

18. Appendixes

18.1. Client error codes

Common errors

Error code	Error message	HTTP status code
MissingParameter	The input parameter "parameter name" that is mandatory for processing this request is not supplied.	400
InvalidParameter	The specified parameter "Action or Version" is not valid.	400
InvalidAccessKeyId.NotFound	The Access Key ID provided does not exist in our records.	404
IncompleteSignature	The request signature does not conform to Aliyun standards.	400
IllegalTimestamp	The input parameter "Timestamp" that is mandatory for processing this request is not supplied.	400
InvalidOwnerId	The specified OwnerId is not valid.	400
InvalidOwnerAccount	The specified OwnerAccount is not valid.	400
InvalidOwner	OwnerId and OwnerAccount can't be used at one API access.	400
Throttling	Request was denied due to request throttling.	400
InvalidAction	The specified action is not valid.	403
ActionUnauthorized	The specified action is not available for you	403
UnsupportedHTTPMethod	This http method not supported.	403
UnsupportedParameter	The parameter "<parameter name>" is not supported.	400
Forbidden.ClusterNotFound	The specified DB Cluster does not exist.	404
Forbidden.RAM	The user is not authorized to operate the specified resource, or this operation does not support RAM.	403
Forbidden.NotSupportRAM	This action does not support accessed by RAM mode.	403

Error code	Error message	HTTP status code
Forbidden.RiskControl	This operation is forbidden by Aliyun Risk Control system.	403
InsufficientBalance	Your account does not have enough balance.	400
Forbidden.Authentication	This operation is forbidden by Aliyun Realname Authentication system.	403
Invalid<parameter name>.ValueNotSupported	The specified parameter "parameter name" is not valid.	400
Invalid<parameter name>.Malformed	The specified parameter "parameter name n" is not valid.	400
InvalidParameter	The specified parameter "parameter name n" is not valid.	400

Specific errors

Error code	Error message	HTTP status code
InvalidRegionId.NotFound	The DBClusterId provided does not exist in our records.	404
InvalidSecurityIPs.Duplicate	The Security IP address is not in the available range or occupied.	400
InvalidSecurityIPsLength.Malformed	The security IP address is beyond the available range or is already used.	400
InvalidEngineVersionInRegion.NotAvailable	The EngineVersion in the Region is not available.	403
InvalidEngineInRegion.NotAvailable	The Engine in the Region is not available.	403
OperationDenied	The resource is out of usage.	403
RegionUnauthorized	There is no authority to create Cluster in the specified region.	403
QuotaExceeded.CreateDBCluster	The quota of create Cluster exceeds.	403
InvalidDBClusterId.NotFound	The specified DBClusterId does not exist.	404
OperationDenied.DBClusterStatus	The operation is not permitted due to Cluster status.	403

Error code	Error message	HTTP status code
InvalidConnectionString.Prefix.Duplicate	The connection string is not in the available range or occupied.	400
QuotaExceeded.SwitchTime	The quota of switch time exceed.	400
OperationDenied.LockMode	The operation is not permitted due to lock of Cluster.	403
InvalidSecurityIps.Duplicate	The quota of security ip exceeds.	400
OperationDenied.CurrentEngineVersion	The operation is not permitted due to specified current version.	400
QuotaExceeded.DBName	The quota of db exceeds.	400
InvalidDBName.Duplicate	The specified DB name is invalid or already exists.	400
InvalidParameter.Keyword	The specified DBName is a reserved keyword.	400
OperationDenied.DBStatus	The status of the database does not support this operation.	403
OperationDenied.DBClusterEngine	The operation is not permitted due to engine of Cluster.	403
InvalidDBInfo.Malformed	The specified parameter "DBInfo" is not valid or db not exist.	400
OperationDenied.Region	The operation is not permitted due to different region.	403
OperationDenied.Engine	The operation is not permitted due to different engine.	403
InvalidTaskId.NotFound	The ImportId provided does not exist in our records.	400
OperationDenied.IncorrectTaskStatus	The operation is not permitted due to status of import.	403
InvalidAccountName.keyword	The specified AccountName is a reserved keyword.	400
InvalidAccountName.Duplicate	The specified AccountName already exists.	400
QuotaExceeded.AccountName	The quota of account exceeds.	403

Error code	Error message	HTTP status code
OperationDenied.AccountStatus	The status of the account does not support this operation.	403
InvalidDBName.NotFound	The specified database does not exist.	404
OperationDenied.AccountType	The operation is not permitted due to type of account.	403
OperationDenied.BackupJobExists	You cannot perform this operation; a backup job exists.	403
OperationDenied.NoDatabase	The operation is not permitted due to no database.	403
InvalidStartTimeAndEndTime.Malformed	The EndTime must be later than or equal to the StartTime.	400
OperationDenied.BackupJobExists	You cannot perform this operation; a backup job exists.	403
InvalidBackupId.NotFound	The BackupId provided does not exist in our records.	404
OperationDenied.NoFoundBackup	The operation is not permitted due to no backup.	403
OperationDenied.BackupStatus	The operation is not permitted due to type of backup.	403
OperationDenied.BackupMethod	The operation is not permitted method of backup.	403
Forbidden.Authentication	The operation is forbidden by Aliyun Realname Authentication System.	403
IncorrectVpcId.Mismatch	The specified parameter "VpcId" is not valid.	400
IntranetNetTypeNotExists	Current DB Cluster net type does not support this operation.	404
InvalidDBCluster.NotFound	The DBClusterId provided does not exist in our records.	403
InvalidConnectionString.DuplicateSpecified	connection string or port want to be modified is the same with current net type.	400
InvalidConnectionStringPrefix.Duplicated	The specified connection string already exists.	403

Error code	Error message	HTTP status code
InvalidCurrentConnectionString.NotFound	Specified current connection string doesn't exist.	400
InvalidDBClusterId.NotFound	The specified DBClusterId does not exist.	400
InvalidDBClusterNetType.NotFound	The Specified DB Cluster net type is not found.	404
InvalidEngineVersion.Malformed	The specified parameter "EngineVersion" is not valid.	400
InvalidClusterNetworkType.ValueNotSupported	The specified parameter "ClusterNetworkType" is not valid.	400
InvalidPort.Malformed	Specified port is not valid.	400
InvalidPrivateIpAddress.Duplicated	Specified private IP address is duplicated.	400
InvalidPrivateIpAddress.Mismatch	Specified private IP address is not in the CIDR block of virtual switch.	400
InvalidVPCId.NotFound	The specified connection string or port does not match the current network type.	400
InvalidVSwitchId.Mismatch	Specified Cluster and virtual switch are not in the same zone.	400
InvalidVSwitchId.NotFound	Specified virtual switch is not found in specified VPC.	400
NetTypeExists	Specified net type already existed.	400
NetTypeExists	Specified public net type already existed.	403
OperationDenied.DBClusterNetType	The network type of the specified Cluster does not support this operation.	403
OperationDenied.LockMode	The Cluster is locked.	403
OperationDenied	The requested resource is sold out in the specified zone; try other types of resources or other regions and zones.	403
OperationDenied	The vpc cloudClusterIp is use, please check params.	406
OperationDenied	The vpc service is error, please check params.	400
PublicConnectionExists	PublicConnection exists.	403

Error code	Error message	HTTP status code
IncorrectDBClusterState	CurrentDB Cluster state does not support this operation.	403
IncorrectDBClusterLockMode	CurrentDB Cluster lock mode does not support this operation.	400
EngineVersionNotSupported	EngineVersion specified cannot be replicate with the source DB Cluster.	400
EngineNotSupported	Engine specified cannot be supported the operation..	400

18.2. Cluster status

This topic describes multiple states of clusters.

State	Description
Creating	The cluster is being created.
Running	The cluster is running.
Deleting	The cluster is being released.
Deleted	The cluster has been deleted.
Rebooting	The cluster is being restarted.
INS_MAINTAINING	The cluster is under maintenance.
Switching	The service is failing over from the primary node to a read-only node.
DBNodeCreating	A node is being added.
DBNodeDeleting	A node is being deleted.
ClassChanging	The node specifications are being changed.
NetAddressCreating	The endpoint is being created.
NetAddressDeleting	The endpoint is being deleted.
NetAddressModifying	The endpoint is being modified.
MinorVersionUpgrading	The kernel version of the cluster is upgrading.
STORAGE_EXPANDIN	The disk capacity is expanding.
UPGRADE_FORBIDDEN	The upgrade is temporarily prohibited.

State	Description
TRANSING	The cluster is being migrated across zones.
SSL_MODIFYING	The SSL certificate is being enabled or disabled.
TDEModifying	The TDE feature is being enabled.
CONFIG_SWIT CHING	The configurations of the custom cluster endpoint is being modified.
ROLE_SWIT CHING	The role of the custom cluster endpoint is being switched.

18.3. Character set tables

This topic describes character set tables that are supported by .

Character sets supported by PolarDB for MySQL

Character set	Character set
utf8	geostd8
gbk	greek
utf8mb4	hebrew
latin1	hp8
euckr	keybcs2
armscii8	koi8r
ascii	koi8u
big5	latin2
binary	latin5
cp1250	latin7
cp1251	macce
cp1256	macroman
cp1257	sjis
cp850	swe7
cp852	tis620
cp866	ucs2

Character set	Character set
cp932	ujis
dec8	utf16
eucjpms	utf16le
gb2312	utf32

Character sets supported by PolarDB PostgreSQL and PolarDB for Oracle

Character set	Character set	Character set
sql_ascii	latin5	win866
euc_jp	latin6	win874
euc_cn	latin7	win1250
euc_kr	latin8	win1251
euc_tw	latin9	win1252
euc_jis_2004	latin10	win1253
utf8	koi8r	win1254
mule_internal	koi8u	win1255
latin1	iso_8859_5	win1256
latin2	iso_8859_6	win1257
latin3	iso_8859_7	win1258
latin4	iso_8859_8	

18.4. Performance metric monitoring

This topic describes the performance metric of PolarDB clusters that are monitored.

Performance metrics of PolarDB for MySQL clusters

Performance metric	Metric	Data type	Unit	Description
	mean_data_size	double	MB	The storage space occupied by the data.

Performance metric	Metric	Data type	Unit	Description
PolarDBDiskUsage	mean_log_size	double	MB	The storage space occupied by logs.
	mean_sys_dir_size	double	MB	The storage space occupied by the system.
	mean_tmp_dir_size	double	MB	The storage space occupied by temporary files.
	mean_redolog_size	double	MB	The storage space occupied by redo logs.
	mean_binlog_size	double	MB	The storage space occupied by binary logs.
	mean_other_log_size	double	MB	The size of other logs.
	mean_undolog_size	double	MB	The storage space used by undo logs.
PolarDBQPSTPS	mean_qps	double	Times	The number of requests per second.
	mean_tps	double	Times	The number of transactions per second.
	mean_mps	double	Times	The number of operations per second.
PolarDBCPU	cpu_ratio	double	Percentage	The CPU utilization (%).
PolarDBMemory	mem_ratio	double	Percentage	The memory usage (%).
PolarDBConnections	mean_active_session	double	Count	The number of active connections.
	mean_total_session	double	Count	The total number of current connections.
PolarDBNetworkTraffic	mean_input_traffic	double	KB/s	The amount of inbound network traffic per second.
	mean_output_traffic	double	KB/s	The amount of outbound network traffic per second.
	mean_innodb_buffer_dirty_ratio	double	Percentage	The dirty ratio (%) in the buffer pool.

PolarDBInnoDBBufferRatio Performance metric	Metric	Data type	Unit	Description
	mean_innodb_buffer_read_hit	double	Percentage	The read hit ratio (%) of the buffer pool.
	mean_innodb_buffer_use_ratio	double	Percentage	The utilization (%) of the buffer pool.
PolarDBInnoDBDataReadWrite	mean_innodb_data_read	double	Byte	The amount of data that is read from the storage engine per second.
	mean_innodb_data_written	double	Byte	The amount of data that is written to the storage engine per second.
PolarDBInnoDBBufferRequests	mean_innodb_buffer_pool_read_requests	double	Times	The number of reads from the buffer pool per second.
	mean_innodb_buffer_pool_write_requests	double	Times	The number of writes to the buffer pool per second.
PolarDBInnoDBLogWrites	mean_innodb_log_write_requests	double	Times	The number of physical writes to the log per second.
	mean_innodb_os_log_fsyncs	double	Times	The number of synchronizations per second.
PolarDBCreatedTempDiskTable	mean_created_tmp_disk_tables	double	Count	The number of temporary tables created per second.
PolarDBCOMDML	mean_com_delete	double	Count	The number of DELETE statements executed per second.
	mean_com_delete_multi	double	Count	The number of Multi-DELETE statements executed per second.
	mean_com_insert	double	Count	The number of INSERT statements executed per second.
	mean_com_insert_select	double	Count	The number of INSERT_SELECT statements executed per second.
	mean_com_replace	double	Count	The number of REPLACE statements executed per second.
	mean_com_replace_select	double	Count	The number of REPLACE_SELECT statements executed per second.

Performance metric	Metric	Data type	Unit	Description
	mean_com_select	double	Count	The number of SELECT statements executed per second.
	mean_com_update	double	Count	The number of UPDATE statements executed per second.
	mean_com_update_multi	double	Count	The number of Multi-UPDATE statements executed per second.
PolarDBRowDML	mean_innodb_rows_deleted	double	Row	The number of rows deleted per second.
	mean_innodb_rows_inserted	double	Row	The number of rows inserted per second.
	mean_innodb_rows_read	double	Row	The number of rows read per second.
	mean_innodb_rows_updated	double	Row	The number of rows updated per second.
PolarDBIOSTAT	mean_iops_r	double	Times/second	The read input/output operations per second (IOPS).
	mean_iops_w	double	Times/second	The write IOPS.
	mean_iops	double	Times/second	The total IOPS.
	mean_io_throughput_r	double	MB	The read I/O throughput.
	mean_io_throughput_w	double	MB	The write I/O throughput.
	mean_io_throughput	double	MB	The total I/O throughput.
PolarDBReplicaLag	mean_replication_delay	double	Second	The replication delay.

Performance metrics of PolarDB for PostgreSQL and PolarDB for Oracle clusters

Performance metric	Metric	Data type	Unit	Description
PolarDBConnections	mean_total_session	double	Count	The number of current connections.
	mean_active_session	double	Count	The number of current active connections.
	mean_waiting_connection	double	Count	The number of pending connections.
	mean_idle_connection	double	Count	The number of idle connections.
PolarDBRowDML	mean_tup_returned_delta	double	Row	The number of rows returned per second in the full table scan result.
	mean_tup_fetched_delta	double	Row	The number of rows returned per second in the index scan and secondary index result.
	mean_tup_inserted_delta	double	Row	The number of rows inserted per second.
	mean_tup_updated_delta	double	Row	The number of rows updated per second.
	mean_tup_deleted_delta	double	Row	The number of rows deleted per second
PolarDBTransaction	mean_active_transactions	double	Count	The number of active transactions.
	mean_waiting_transactions	double	Count	The number of pending transactions.
	mean_idle_transactions	double	Count	The number of idle transactions.
	mean_long_idle_transactions	double	Count	The number of idle long-running transactions.
	mean_long_transactions	double	Count	The number of long-running transactions.
	mean_two_pc_transactions	double	Count	The number of XA transactions.
	mean_long_two_pc_transactions	double	Count	The number of long-running XA transactions.

Performance metric	Metric	Data type	Unit	Description
PolarDBQPSTPS	mean_tps	double	Times	The number of transactions per second.
	mean_commits_delta	double	Times	The number of transactions committed per second.
	mean_rollbacks_delta	double	Times	The number of transactions rolled back per second.
	mean_deadlocks_delta	double	Times	The number of deadlocks per second.
PolarDBBuffer	mean_blks_read_delta	double	Count	The number of block reads per second.
	mean_blks_hit_delta	double	Count	The number of block hits per second.
	mean_hit_ratio	double	Percentage	The block hit ratio.
	mean_buffers_clean	double	Count	The cumulative number of buffers written by the background writer during checkpoints.
	mean_buffers_backend	double	Count	The cumulative number of buffers written by a backend.
	mean_buffers_backend_fsync	double	Count	The cumulative number of backend fsync calls.
	mean_buffers_alloc	double	Count	The cumulative number of allocated buffers.
PolarDBVacuum	mean_db_age	double	xids	The difference between the current transaction ID and the earliest transaction ID that cannot be recycled.
PolarDBTemp	mean_temp_files	double	Count	The number of temporary files generated per second.
	mean_temp_bytes	double	Bytes	The amount of temporary file data generated per second.
	cpu_ratio	double	Percentage	The CPU utilization.

Performance metric	Metric	Data type	Unit	Description
PolarDBCPU	cpu_user_ratio	double	Percentage	The CPU utilization in the user state.
	cpu_sys_ratio	double	Percentage	The CPU utilization in the system state.
PolarDBMemory	mem_ratio	double	Percentage	The memory usage.
PolarDBDiskUsage	mean_ins_total_size	double	MB	The used PolarStore space of the instance.
	mean_data_size	double	MB	The used PolarStore space of user data.
	mean_wal_size	double	MB	The used PolarStore space of Write-Ahead Logging (WAL) logs.
	mean_tmp_size	double	MB	The used temporary space.
	mean_log_size	double	MB	The used space of local logs.
PolarDBIOSTAT	mean_iops_r	double	Times/second	The read IOPS.
	mean_iops_w	double	Times/second	The write IOPS.
	mean_iops	double	Times/second	The total IOPS.
	mean_io_throughput_r	double	MB	The read I/O throughput.
	mean_io_throughput_w	double	MB	The write I/O throughput.
	mean_io_throughput	double	MB	The total I/O throughput.