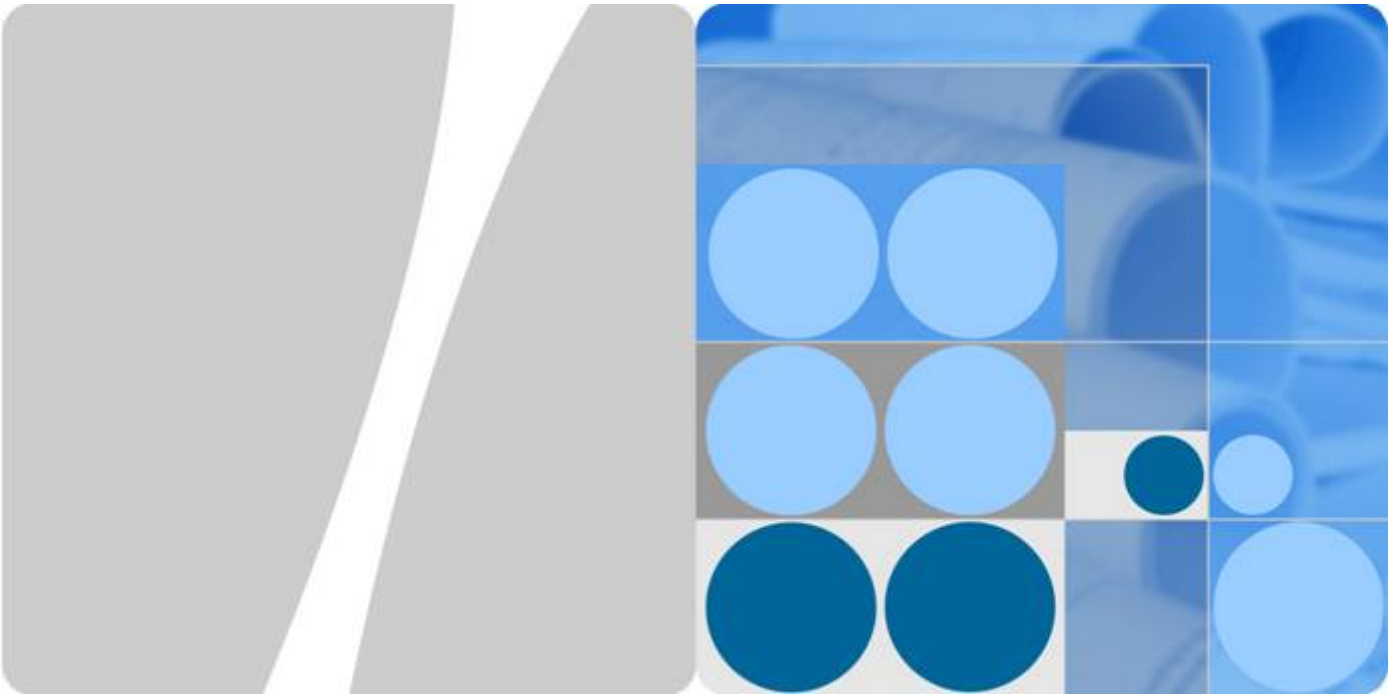

CloudTable Service

FAQs

Issue 06

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Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: https://www.huawei.com

Email: support@huawei.com

Contents

1 General

1.1 What Services Does a CloudTable Cluster Provide?

CloudTable Service (CloudTable for short) is a distributed, scalable, and fully-managed key-value data storage service based on Apache HBase. It provides high-performance random read/write capabilities so it is great for applications for storage and queries of massive amounts of structured, semi-structured, and time series data.

1.2 Why Do I Choose CloudTable Service?

CloudTable is a fully-managed and high-performance key-value data storage service on the public cloud. With CloudTable, you can be free from deployment and O&M, create clusters on demand to reduce costs, and obtain professional tutorial.

1.3 How Do I Prepare for Creating a CloudTable Cluster?

- Select a proper region to create a CloudTable cluster based on cluster access delay requirements.
- When creating a CloudTable cluster, determine the number of computing units based on service loads. After a cluster is created, computing units cannot be reduced and the cluster is charged based on the number of computing units. If the delay for the cluster to process services exceeds the recommended value, increase the number of computing units.
- The storage I/O type cannot be changed after a cluster is created. Select a proper storage I/O type based on service requirements.

1.4 What Should I Pay Attention to When Using CloudTable Service?

- On the CloudTable management console, check cluster status and task status. If the cluster status is **Creation failed** or **Sub-health**, or a task fails to be executed, submit a service ticket to technical support.
- On the CloudTable management console, click **Monitor** on the right of the **Cluster Management** page to access the **CloudTable Service Monitoring** page on the Cloud Eye management console. View metric monitoring information and set alarm rules for key metrics. If there is an alarm, submit a service ticket to technical support. If the cluster CPU or memory usage exceeds the threshold for a long time, you need to increase the number of computing units to balance loads.
- On the CloudTable management console, click **Cluster Mode** to open the cluster list. Check whether the used storage capacity of a cluster exceeds the threshold. If it exceeds the threshold, increase storage quotas and storage capacities.

1.5 What Is OpenTSDB?

OpenTSDB is a distributed, scalable time series database based on HBase. It stores time series data. Time series data refers to the data collected at different time points. This type of data reflects the change status or degree of an object over time.

1.6 What Compression Algorithms Are Supported by CloudTable Clusters?

CloudTable clusters support the LZ4, SNAPPY, and GZ compression algorithms.

1.7 Can I Stop CloudTable Service?

No, you cannot. CloudTable Service complies with the common practices in the industry. Once a cluster is created, it cannot be stopped or shut down.

1.8 Which Programming Languages Are Supported by HBase External APIs in CloudTable?

CloudTable integrates the open source Apache HBase 1.3.1 and is fully compatible with open source native APIs of HBase 1.3.1. According to HBase official documentation, HBase supports the following APIs:

- REST API
- Thrift API

- C/C++ Apache HBase Client
- Java Data Objects (JDO)

  CloudTable provides Java sample code for your reference. For details, see the *CloudTable Service Developer Guide*.
- Scala
- Jython

For more information about HBase APIs, see **Apache HBase External APIs** in the HBase official documentation.

2 Connection and Access

2.1 How Do I Access a CloudTable Cluster?

CloudTable is based on an elastic cloud server (ECS). You need to create an ECS in the same subnet as the CloudTable cluster, synchronize the ZooKeeper address of the cluster, and access the cluster using shell or APIs.

2.2 How Do I Connect to a CloudTable Cluster on a Local PC?

You can use VPN on a Linux ECS in the local Windows environment to connect to a CloudTable cluster. For details, see **Preparing a Local Windows Environment (VPN Connection Mode)**.

To use a VPN connection mode, you need to apply for a Linux ECS and bind it to an EIP. Install the IPsec VPN service on the Linux ECS so that it can be used as a VPN server. Use the local Windows environment as a client host and set up a VPN connection to connect to the VPN server (Linux ECS). After the connection is successful, you can connect to CloudTable clusters with the link in the local environment. Before connecting to CloudTable, you need to install the JDK and client tools in the local Windows environment.

2.3 Can I Use SSH to Access Computing Nodes of CloudTable?

No. Underlying computing units of CloudTable run on a Virtual Private Cloud (VPC) network. VPC isolates networks logically and provides a secure and isolated network environment to protect your data. You can use only a client tool or application to connect to the ZooKeeper link (that is, an HBase connection address) or OpenTSDB link of CloudTable to access CloudTable.

2.4 How Do I View the Native HBase Page?

For details, see **Accessing the HBase Web UI** in the *CloudTable Service User Guide*.

2.5 Why Can't I Access HBase After the ZK Address Is Configured?

CloudTable does not provide an external access address. Therefore, you cannot access HBase from the public network. You need to prepare an ECS that is in the same VPC as the HBase cluster to access HBase.

Ensure that **nameserver** is correctly configured in the **/etc/resolv.conf** file on your ECS. For details about configuration methods, see **Preparing an ECS** in the *CloudTable Service User Guide*.

2.6 Why Is the Error "Will not attempt to authenticate using SASL (unknown error)" Reported When Connecting to HBase?

Symptom

HBase fails to be connected to when accessing CloudTable and the following error information is displayed:

```
Opening socket connection to server 192.168.0.107/192.168.0.107:2181. Will not attempt to authenticate using SASL (unknown error)
```

Possible Cause

The possible cause is as follows:

- Network access failure

  The link of CloudTable is an internal network address rather than a public network address. Therefore, CloudTable cannot be directly accessed from the public network. You can ping the ZooKeeper link of CloudTable on a client host. If it cannot be pinged, the network connection is abnormal.

Solution

You can use either of the following methods to prepare a client operating environment:

- **Preparing an ECS**

  If you use an ECS as a client host, you need to prepare the ECS that is in the same region, VPC, subnet, and security group as the CloudTable cluster for accessing CloudTable. In addition, you need to correctly configure a DNS server address for the ECS.

- **Preparing a Local Windows Environment (VPN Connection Mode)**

  If you access CloudTable in the local Windows environment, you need to apply for a Linux ECS as a VPN server. The Linux ECS and the CloudTable cluster must be in the same region, AZ, VPC, subnet, and security group. Then, you can use VPN to access CloudTable through the Linux ECS in the local Windows environment.

2.7 How Do I View the IP Address Corresponding to a Domain Name in a CloudTable Link?

Submit a service ticket to technical support to obtain the IP address corresponding to a domain name, because you cannot view it by yourself.

To submit a service ticket, log in to the CloudTable management console, and choose **More** > **Service Tickets** > **Create Service Ticket** in the upper right corner. Fill in the service ticket to obtain the mapping between the intranet domain name of the CloudTable link and the IP address.

2.8 How Do I Access CloudTable from Other Cloud Services?

When a cloud service and a CloudTable cluster are in the same region, AZ, VPC, subnet, and security group, you can access the CloudTable from the cloud service.

2.9 Can I Configure the hbase-site.xml File?

- hbase-site.xml file on a client

  If you have deployed an HBase shell client, you can configure the **hbase/conf/hbase-site.xml** file in the client directory.

- hbase-site.xml file on a server

  You cannot edit the **hbase-site.xml** file on the server. However, you can modify some parameters in the **hbase-site.xml** file on the CloudTable management console. For details, see **Modifying HBase Parameters of the Cluster**. If modification of these parameters cannot meet your requirements and you want to modify other parameters, contact technical support.

2.10 Why Can't I Ping the OpenTSDB Link on a Local Device?

The OpenTSDB link of CloudTable is an intranet address. CloudTable does not provide a public network address to access OpenTSDB. Therefore, the OpenTSDB link cannot be pinged on a local PC. You need to prepare an ECS that is in the same VPC as the CloudTable cluster to access OpenTSDB.

2.11 Can I Modify OpenTSDB Parameters?

No. Contact technical support personnel or submit a service ticket to modify OpenTSDB parameters.

3 Data Read/Write

3.1 Is Raw Data Stored in CloudTable?

CloudTable stores raw data and supports compressed storage. The LZ4, SNAPPY, and GZ compression algorithms are supported. CloudTable does not encrypt or decrypt raw data. If data needs to be encrypted or decrypted, use service code on an application to implement data encryption and decryption.

3.2 Why Can't I Write Data to HBase?

Symptom

Data cannot be written to HBase. As a result, service data on an application cannot be updated in time.

Possible Cause

There are too many ZooKeeper connections.

Solution

When service code is connected to the same CloudTable cluster, you are advised to create one Connection and reuse it for multiple threads. You do not need to create a Connection for every thread. Connection is a connector for connecting to a CloudTable cluster. Excessive Connections will increase loads on ZooKeeper and deteriorate service read/write performance. Multiple client threads can share one Connection. Typically, client threads of a client program share one Connection.

3.3 Why Is the Precision Lost Sometimes When a Large Integer Is Written into OpenTSDB?

Assume that the following data is written into OpenTSDB.

Table 3-1 Sample data

Metrics	Timestamp	Tag	Value
Money	1483200000	Card1	9223372036854775709
	1483200001	Card1	9223372036854775709
	1483200002	Card1	**922337203685477.12**
	1483200003	Card1	9223372036854775700

The query result is as follows:

```
{"1483200000":9223372036854775709,"1483200001":9.223372036854776E18, "1483200002":
9.223372036854771E14,"1483200003":9223372036854775700}
```

The value of the timestamp 1483200001 is changed to 9.223372036854776E18. The data precision has been changed compared with the original value 9223372036854775709.

The reason is as follows: If the next piece of data (that is, "1483200002": 9.223372036854771E14) is a floating point number, OpenTSDB will convert the current piece of data into a floating point number for return.

At the same time, the integer value 9223372036854775709 can only be represented as 9.223372036854776E18 if it is expressed in a double-precision (Double) floating point number. This is because Double is represented by scientific notation in memory.

1bit (symbol bit) 11bits (exponent bit) 52bits (mantissa bit)

The precision is determined by the mantissa bit. Therefore, the precision of Double is 2^52 = 4503599627370496. There are 16 bits in total. The maximum precision of Double is 16 bits. In this case, the integer 9223372036854775709 (19 bits) cannot be completely represented.

You are advised not to mix integer and floating point data for the same metric. In this way, similar problems can be avoided.

4 Billing FAQs

4.1 How Do I Renew the Service?

Renewal Description

Currently, the CloudTable cluster mode supports the following billing modes: pay-per-use (hourly) and monthly/yearly discount package.

- In pay-per-use (hourly) mode, the system settles the fees by hour. You can use CloudTable as long as your account balance is sufficient.
- In monthly/yearly discount package mode, you make a one-off payment and no fees will be incurred when you use CloudTable. After a package expires, the system will automatically change to pay-per-use (hourly) mode. You can use the service as long as your account balance is sufficient. You can also renew your package on the **Renewals** page.
- If your account balance is insufficient and fee deduction fails, a grace period starts. The grace period is 1 day for a common user and 7 days for a VIP user. You can still use CloudTable in the grace period.
- If you have not renewed your account within the grace period, a 15-day retention period starts after the grace period expires. During the retention period, the service resources will be frozen and cannot be used, but resources and data are retained.
- If your account is not recharged within the retention period, the frozen service resources and data will be deleted and cannot be restored after the retention period expires.
- You can recharge your account within the retention period. After the recharge is successful, the system preferentially deducts the arrears and unfreezes the service resources. Then you can continue to use CloudTable properly.

Perform the following operations to recharge your account by yourself to ensure that you can use CloudTable properly.

How to Renew the Service

Step 1 Log in to the **CloudTable management console**.

Step 2 Choose **Fees** > **Renewals** in the upper right corner of the page. The **Renewals** page is displayed.

Step 3 On the **Renewals** page, choose the renewal mode based on your service requirements.

Step 4 Complete the renewal as prompted.

- You cannot change the billing mode of an order during renewal.
- After you pay for a new order, it takes effect only after the old order expires.

----End

4.2 Why Can't I Unfreeze a Cluster After Purchasing a Discount Package?

You cannot unfreeze a cluster by purchasing a discount package. You need to recharge your account to ensure that the account balance is not 0. For details, see **How Do I Renew the Service?**. If you have purchased a discount package, you can unfreeze the cluster only after you recharge your account. Then you can purchase a discount package again.

