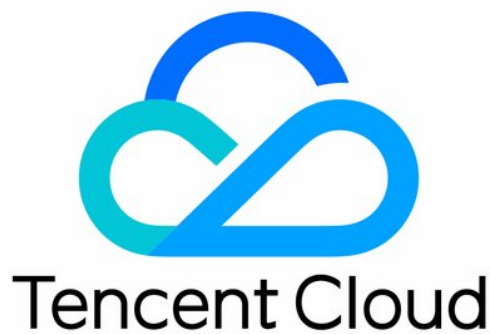


TencentDB for MariaDB

FAQs

Product Documentation



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Data Sync(Legacy)

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Task Verification Failure

Possible causes:

The account or password of the target instance is incorrect.

The network is disconnected; for example, the firewall or security group blocks the egress IP of the sync tool, and cross-network access is not supported currently.

The target instance does not exist.

Solution: check the above causes and make adjustments accordingly.

Long Delay of Sync Task

Possible causes:

The transaction on the source instance is large. Data sync is to sync data from the replica. As the timestamp of each transaction in a binlog is the start time of the transaction, if there is a large transaction, the reported timestamp for data sync will still be the start time of the transaction even in concurrent sync.

There is a delay on the replica; for example, DDL replay attacks or read-only accounts cause high pressure and delay on the replica, leading to database sync delay.

Solution: check whether there are large transactions or batch processing operations. If the delay persists after a period of time, please contact us for troubleshooting.

Extra Data After Data Sync

Possible causes: write lock is not enabled for the target instance and some additional data is written to it; the corresponding table may lack a primary key; therefore, when the sync tool sends a request again, part of the data will be written to the target instance again.

Solution: add a primary key to the source table, delete existing data from the target table, and sync the data again. Or, you can manually delete extra data from the target table.

Writable Target Database

Data sync does not lock the target database, which can still be read from/written to normally. Therefore, please manipulate the target database with caution.

DDL Replay Failure

Possible causes: the source and target databases are on different versions, leading to differences in DDL syntax.

Solution: manually run the DDL statements again in the target database.

Database Sync Failure with Missing or No Data in the Corresponding Table

Possible causes: the account required by sync or the table structure of the target database is modified.

Solution: pause the sync task, modify the corresponding account, change the table structures of the target and source databases to the same, and perform sync again.

Product

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What are the standards and certifications of TencentDB for MariaDB?

TencentDB for MariaDB has earned many Chinese and international certifications on behalf of TencentDB, including but not limited to:

Software Copyright

ISO22301 Certification

ISO27001 Certification

ISO20000 Certification

ISO9001 Certification

Trusted Cloud Service Certification

Cybersecurity Classified Protection Certification

STAR Certification

Some features of TencentDB for MariaDB are designed based on the following standards:

GBT 20273-2006 Information Security Technology - Security Techniques Requirement for Database Management System

JRT 0072-2012 Testing and Evaluation Guide for Classified Protection of Information System of Financial Industry

Why does an error occur when I specify some storage engines for a TencentDB for MariaDB instance?

Consistency requirements are first matched when TencentDB for MariaDB initializes parameters, but some storage engines may cause data inconsistency; therefore, an error may occur in some storage engines when you create a table. You can use the `SHOW ENGINES` command to view the storage engines supported by the current database.

For more information, please see [Precautions > Notes > Storage engine](#).

Why does a newly purchased TencentDB for MariaDB instance with two GB memory only have about one GB cache capacity after initialization?

Please see **Parameter Settings** of the corresponding instance in the TencentDB for MariaDB console. One GB out of the two GB memory will be assigned to the threads executed by SQL, such as temporary table variables in the figure below.

Instance Details System Monitoring **Parameter Configuration** Manage Account Data Security

Database Parameters Modification Log

[Batch Modify Parameters](#) [Import from template](#)

Parameter Name	Restart Required ⓘ	Default Value	Current Value
sqlsynctimeout ⓘ	No	10	30
table_definition_cache ⓘ	No	400	400
table_open_cache ⓘ	No	1024	10240
time_zone		EM	SYSTEM
tmp_table_size ⓘ		4432	33554432 ✎
tx_isolation ⓘ		ATABLE-READ	REPEATABLE-READ
wait_timeout ⓘ	No	28800	28800

The max value of the temp memory table. If a temporary memory table exceeds this limit, MySQL automatically converts it to a disk-based MyISAM table. If you have many GROUP BY query statements and a large memory space, you can increase the value of "tmp_table_size". This variable does not apply to user-created memory tables.

Why does the `max_tmp_size` parameter have a size of at most 60 MB in a TencentDB for MariaDB instance with 6 GB memory?

The default value of this parameter in TencentDB for MariaDB system is 64 MB. You are not recommended to set it to a greater value.

If you need to set a specific value for this parameter, you can [submit a ticket](#) for application.

Why does the CPU utilization reach 50% when there is no operation on the TencentDB for MariaDB instance?

Due to the TencentDB architecture design, binlogs and slow logs are analyzed and uploaded once every five minutes; therefore, there will be one minute with high CPU utilization every five minutes.

The monitoring page in the console displays the maximum value in five minutes, so the utilization seems high; however, the actual utilization is lower than the displayed value.

Why is only one IP address displayed for the TencentDB for MariaDB Standard Edition (one primary and one replica)?

The replica server does not provide an IP address. You can purchase read-only replicas if needed.

Why doesn't the available disk capacity increase after I delete content from tables in a TencentDB for MariaDB instance?

Data deletion does not release available physical capacity (similar to other databases). You can use Percona Toolkit to perform the `alter table xxxx engine=innodb` operation on the desired table.

The download link for a TencentDB for MariaDB instance is valid for only 15 minutes. What can I do if there is a high volume of data that cannot be fully downloaded within 15 minutes?

To ensure security of the download link, the URL is valid for only 15 minutes; however, if the download has already started, the connection will remain valid throughout the download (a copied URL will be invalid).

Why does the available cache capacity keep decreasing even to 0 or -1?

The actual captured capacity is the available capacity for `Innodb_buffer`. As the database generally uses the LRU scheduling scheme, this value tends to be 0 in normal cases, and you do not need to worry about it. Please first check whether the cache hit rate is too low, e.g., lower than 90%.

When a large transaction is processed, this value may be negative, which means that the database memory usage exceeds the assigned value. This is because some idle memory resources are overused in the physical space to ensure proper operation of your business. Therefore, overuse does exist.

Can I change the previously configured character set and the number of bytes during initialization of a TencentDB for MariaDB instance?

To change the character set, you can modify `character_set_server` in parameter settings or specify the character set when creating a table; to modify the `innodb_page_size` parameter, you need to [submit a ticket](#) (for reinstalling the instance).

What will happen if the number of connections to a TencentDB for MariaDB instance is too large? Or how do I avoid the problem where new business requests cannot properly connect to the database?

The maximum number of connections is 4,096 for a running client. After the threshold is reached, new connections will be denied. In this case, please view the following monitoring metrics: number of active connections and connection utilization. You can analyze this problem based on the following situations:

If the client is a short connection application, please check whether there are unclosed connections (in this case, the number of active connections usually increases linearly to 4,096). If metrics such as number of query requests increase drastically at the same time, please check whether there is a sudden increase in the number of requests.

If the client is a persistent connection application, please check the number of connections in all connection pools to the instance. If the connection utilization in monitoring metrics is low, the number of connections to a connection pool is too large.

How can I verify that read/write separation has been performed on the replica server in a TencentDB for MariaDB instance?

You can check the number of (SELECT) queries on the replica server through the corresponding monitoring metric in the console. If read/write separation is enabled, this value will be greater than 0.

What are the differences between the aggregated, primary node, and replica node data in monitoring metrics of a TencentDB for MariaDB instance? Why are some monitoring values obviously different?

The aggregated data is the aggregation of all monitoring data of the entire instance and may be the sum of values of all primary nodes, or all primary and replica nodes.

Primary and replica node data is data of a single node; therefore, the values are certainly different.

What should I do if my TencentDB for MariaDB instance expires?

For more information, please see [Processing for Overdue Payment](#).

Account Login

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How do I create an account in TencentDB for MariaDB?

For detailed directions, see [Managing Account](#).

How do I access a TencentDB for MariaDB instance over the private network?

Use a CVM instance connected to the network of the TencentDB for MariaDB instance to access the private IP of the MariaDB instance. For more information, see [Accessing Instance > Private network access](#).

How do I access a TencentDB for MariaDB instance over the public network?

Install a database client on a Windows or Linux server in the public network to access the public IP of the TencentDB for MariaDB instance. For more information, see [Accessing Instance > Public network access](#).

What should I do if I forgot my TencentDB for MariaDB instance login password?

Log in to the [TencentDB for MariaDB console](#), click an instance ID/name, and enter the instance management page. On the **Account Management** tab, locate the desired account in the account list, and select **More > Reset Password** in the **Operation** column.

Can I set the permission of a TencentDB for MariaDB account on a specified field in a specified table to read-only?

No. The minimum granularity of TencentDB for MariaDB permission settings is table rather than field. This is completely the same as in MySQL.

In the read-only account scheme for read/write separation of TencentDB for MariaDB, do I need to make special settings in my program?

Yes. You can set accessing the replica server through a read-only account in business modules where your need to read data only from the replica server.

After read/write separation is enabled for TencentDB for MariaDB, my read-only account does not have the permission to use functions, so it cannot invoke custom functions or procedures. How do I change this?

A read-only account does not have the permission to run procedures or custom functions. This cannot be changed.

Features

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How do I restart a TencentDB for MariaDB instance?

You can restart a TencentDB for MariaDB instance in the [console](#), which, however, is not recommended.

Do I need to configure read/write separation on the program?

Read/write separation of database is not configured automatically. You need to first [create a read-only account](#) in the console, and modify the program configuration.

How do I effectively delete large amounts of data from a TencentDB for MariaDB instance?

The deletion method is similar to batch insertion. You are recommended to delete small amounts of data (e.g., 10,000 entries) at a time and repeat the operation multiple times.

What if the database parameter to be modified cannot be found in parameter configuration options or some parameters cannot be modified?

The [TencentDB for MariaDB console](#) supports most common database parameters and sets security thresholds for them. If a parameter to be modified does not exist or cannot be modified to a specific value, please [submit a ticket](#) for assistance and we will process it as soon as possible.

How do I use mysqldump to import data to a TencentDB for MariaDB instance?

mysqldump is easy to use but requires long downtime, so it is only suitable for small amounts of data or situations that allows relatively long downtime.

For more information, please see [Importing Data with mysqldump](#).

What are the functional limitations of TencentDB for MariaDB?

You cannot change any data in the `mysql` , `information_schema` , `performance_schema` , or `sysdb` database.

You cannot use SQL statements to set accounts or grant permissions, which can only be done in the console.

The following 19 common permissions are supported, and only few rarely used permissions are not supported:

SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, REFERENCES, INDEX, ALTER
CREATE TEMPORARY TABLES, LOCK TABLES, EXECUTE, CREATE VIEW, SHOW VIEW
CREATE ROUTINE, ALTER ROUTINE, EVENT, TRIGGER, SHOW DATABASES

The super admin account is not supported.

The InnoDB storage engine is used, while other engines are unavailable currently.

How do I roll back a TencentDB for MariaDB instance?

TencentDB for MariaDB can roll back data to any time point in the last 30 days based on the retention of backups and logs. With the database rollback feature, system loss can be minimized.

For more information, please see [Rolling back Databases](#).

Performance

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Why does my CPU utilization exceed 100%?

MariaDB is designed by default to overuse idle resources, so your business can preempt some idle CPU resources. Therefore, when your instance uses more CPU cores than the default value, it's normal for CPU utilization to appear higher than 100% in the monitoring view.

However, if your CPU load always exceeds 60%, we recommend that you expand your database as soon as possible.

I have purchased 16 GB of memory. The monitoring page shows that the memory has been almost used up, but why is my business not affected?

The memory allocation mechanism of the database makes the most of idle memory to improve the cache hit rate rather than reading data from the disk. Therefore, it is normal that your memory is used up. Generally, you only need to check whether your business is affected.

What is the maximum data volume of each table in TencentDB for MariaDB (without affecting the normal read/write efficiency)?

We recommend that you keep the data volume below 20 million entries; otherwise, TencentDB for MariaDB performance will be affected.

Does the connection method of a TencentDB for MariaDB data source need to be changed?

TencentDB for MariaDB is compatible with MySQL protocols and connection programs under such protocols; therefore, no change is needed.

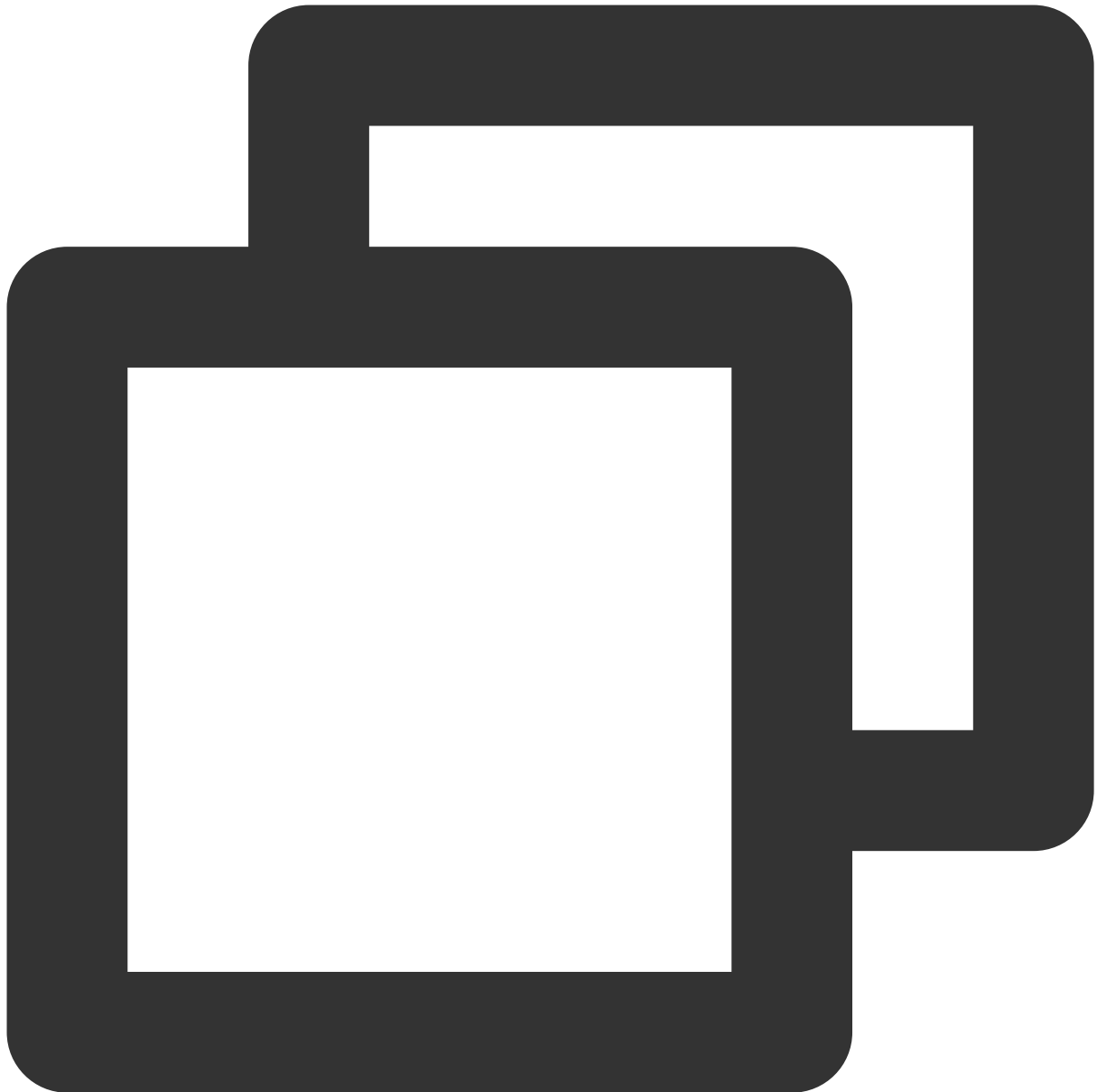
What syntax does TencentDB for MariaDB audit support?

Note:

As the database audit feature is being refactored and upgraded, it is not available for newly purchased instances during this period.

Database audit currently supports most SQL statements. If you find any deficiency, [contact us](#) for feedback.

1. Parsing of DCL, DDL, and DML statements is supported.



Insert, Replace, Select, Union, Update, Delete, CreateDatabase:, CreateEvent, CreateFunction, CreateTable, CreateServer, CreateProcedure, CreateTablespace, CreateTrigger, CreateView, ShowCharset, ShowCollation, ShowColumns, ShowCreate, ShowCreateDatabase, ShowDatabases, ShowEvents, ShowFunction, ShowGrants, ShowLogEvents, ShowLogs, ShowProcedure, ShowOpenTables, ShowProcessList, ShowMasterStatus, ShowPrivileges, ShowProfiles, ShowSlaveHosts, ShowSlaveStatus, ShowWarnings, ShowVariables, ShowStatus, ShowTriggers, Call, DropProcedure, DropDatabase, DropIndex, DropLogfile, DropServer, DropTables, DropTablespace, DropTrigger, DropUser, DropTable, AlterEvent, AlterFunction, AlterLogfile, AlterProcedure, AlterServer, AlterTable, AlterTablespace, AlterView, Rollback, Commit, Begin, Set, SetTrans, SetPassword, Release, Grant, RenameTable, Install, StopSlave, StartSlave, StartTrans, Use, DescribeTable, DescribeStmt, Flush, Load, Lock, Reset, CacheIndex, TruncateTable, Lock, Unlock, SavePoint, Help, Do, SubQuery, ShowTables, Explain

Kill, Partition, PrepareRepairXACheckChecksumAnalyzeChangeOptimizePurgeHandlerSignalR

2. Transaction and procedures will be divided into multiple statements.

Why does strong sync in TencentDB for MariaDB have primary/replica delay?

The strong sync mechanism is to return a response immediately after data is written to (stored in) a replica log. In this case, data still needs to be written to the table through the log; therefore, delay will occur. For more information, see [System Architecture](#).

Backup

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Does TencentDB for MariaDB support real-time backup?

Currently, real-time backup is not supported.

How does TencentDB for MariaDB decompress a backup and restore it to a self-built instance?

For more information, please see [Restoring Instances from Backup Files](#).

What are the backup modes supported by TencentDB for MariaDB?

TencentDB for MariaDB supports full backup and incremental backup. For more information, please see [Backup Mode](#).

How do I decompress backup and log files of TencentDB for MariaDB?

Backup files and log files (binlog files) of TencentDB for MariaDB are compressed with LZ4 (Extremely Fast Compression algorithm). You can use LZ4 for decompression.

For more information, please see [Decompressing Backups and Logs](#).

Ops

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I have purchased a CVM instance in East China (Shanghai Zone 2) and a TencentDB for MariaDB instance in Shanghai, and both of them are in the basic network. Why is the TencentDB for MariaDB instance unpingable on the CVM instance?

TencentDB disables the ping operation by default.

You can use Telnet to check connectivity if needed.

What can I do if Navicat MySQL 8.0.x of TencentDB for MariaDB has a connection error?

Please use the latest version for connection.

What thread is `binlog dump` of TencentDB for MariaDB?

It is a normal master/slave sync thread, which is resident.

What can I do if an error occurs when I use the multi-thread download tool Axel to download TencentDB for MariaDB backup or log files?

Multi-thread download is not supported. You can use the `wget --content-disposition` command for download.

Why does the master/slave delay of TencentDB for MariaDB suddenly increase even to several minutes?

The [TencentDB Console](#) supports most common database parameters and sets security thresholds for them. If a parameter to be modified does not exist or cannot be modified to a specific value, please [submit a ticket](#) for assistance.

What can I do if an error occurs when I run `SELECT INTO OUTFILE` or `./mysqldump` on a TencentDB for MariaDB instance to export files locally?

Files cannot be written to instance server directories.

Why does an error similar to "READ ONLY" occur when I run `SELECT FOR UPDATE` on a TencentDB for MariaDB instance?

Some SQL statements do not support read/write separation. `SELECT FOR UPDATE` is a write operation and will cause an error.

A large number of slow queries or performance problems occur shortly after I migrate data to TencentDB for MariaDB. How do I troubleshoot them?

You can enter the instance details page in the TencentDB for MariaDB Console and select "Performance Optimization" > "Slow Query Analysis" to specifically analyze the slow queries.

Possible reasons include:

If connection failed, it may be because that a large number of slow queries previously affected the performance, and now TencentDB for MariaDB uses the thread pool mechanism to control the number of active threads, so the connection cannot be established.

Data was just migrated to the TencentDB for MariaDB instance and has not been fully cached to the memory; therefore, part of the data needs to be pulled from the disk with longer consumption time, leading to a drop in performance.

How do I troubleshoot the `XA_RBTIMEOUT` error on a TencentDB for MariaDB instance?

It is possible that a large transaction has generated a super-large binlog. You are recommended to add an auto-increment field to the required tables.

```
1. CREATE TABLE `test` (  
2.   `id` bigint(20) NOT NULL AUTO_INCREMENT primary key,  
3.   `title` varchar(255) NOT NULL  
4. ) ENGINE=InnoDB AUTO_INCREMENT=704677 DEFAULT CHARSET=utf8
```

Disk Overuse

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Overview

Starting from August 3, 2020, TencentDB for MariaDB will lock instances with disk utilization of 150% or more to prevent data loss. Locked disks cannot be written to. Please arrange the storage space of your instance, and clean up or expand in advance the disks that are going to be overused.

Compositions of disk space

Data space: the space which your data takes up.

System file space: the space which system tablespace files, redolog, undolog, and temp files take up.

Note:

Tencent Cloud offers space for binlog free of charge, so binlog does not take up the disk space you have purchased.

Causes of Disk Overuse

The following may cause disk overuse:

Data has taken up too much space: as the business expands, new data is constantly inserted, resulting in data space growth.

Temp files have taken up too much space: temp tables are generated when complex query statements with `order by` or `group by` and the `alter table` statements are executed. Small temp tables are stored in memory, while large temp tables in disks.

System files have taken up too much space: during the database installation, some system files will be initialized to maintain normal operation. If transactions remain pending to be submitted for a long time and a large number of UPDATE, INSERT and DELETE operations are executed, the log recording transaction information may be oversized.

Solution

If a disk is overused, we recommend that you identify the cause and troubleshoot the issue as follows:

If it is caused by data taking up too much space, you can delete legacy tables no longer used in order to release space. You can also expand your instance disk specification in the [console](#), and the instance can be read from and written to after the expansion is completed.

If it is caused by temp files taking up too much space, you can optimize the `order by` or `group by` query statements for your application, and monitor and clear sessions and transactions that take a long time to execute, in

order to reduce temp files.

If it is caused by system files taking up too much space, it may be because there are queries existing for a long time and the ibdata1 file is oversized. You can monitor and clear sessions and transactions that take a long time to execute, in order to reduce system file redundancy.

IO Metric Exception

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Exception

Log in to the [TencentDB for MariaDB console](#) and click an instance ID to enter the instance management page. On the **Monitoring and Alarms** tab, you can view two IO metrics.

Metric	Category	Description
IOUsageRate	Instance monitoring	Maximum IO utilization of the primary node
IOUsageRateNode	Node monitoring	IO utilization

In actual use, the above two IO metrics may increase abnormally even during off-peak hours. Alarms configured for them, if any, will be triggered.

Exception causes

Possible causes of the abnormal IO increase include:

There is a calculation problem with the IO metrics, and the actually displayed values are IO values of the server where the instance and node reside.

The IO levels of other instances on the same server increase, which may affect the IO monitoring of the current instance.

Solution

This issue involves [alarms](#). We have located it and are fixing it. You can try the following workarounds for the time being:

Do not configure alarms for these two IO metrics. Or, increase their alarm thresholds to avoid the impact of abnormal alarms.

Ignore these two IO metrics when they increase abnormally and don't match the business usage.

We are monitoring and handling the IO usage issue uniformly to ensure the normal operations of instances.