TencentDB for SQL Server

FAQs

Product Documentation

Contents

FAQs
Overview

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This document lists the FAQs of TencentDB for SQL Server.

Note:

This document lists many questions. You can use the search box or press **Ctrl+F** to search with keywords. If your question is not listed here, submit a ticket for assistance.

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Model Selection

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How do I select an appropriate architecture of TencentDB for SQL Server?

TencentDB for SQL Server supports single-node architecture (formerly basic edition) and two-node architecture (formerly high-availability/cluster edition). To ensure high availability of instances, we recommend that you choose a two-node architecture and adopt a cross-AZ high-availability deployment. If your business requires the super admin permissions, you can use the single-node architecture (formerly basic edition). For more information, see Multi-AZ Disaster Recovery.The differences between architectures are as follows:

Two-node (formerly high-availability/cluster edition):

SQL Server 2008 R2, 2012, 2014, 2016 Enterprise/Standard: They support the database mirroring (high-availability replication) scheme to enable automatic switch in seconds, lowering the data loss to "zero".

SQL Server 2017, 2019 Enterprise/Standard: They adopt the Always On technology to build a SQL Server cluster that features high performance, high availability, high reliability, and easy maintenance.

Single-node (formerly basic edition): It is deployed on a single node with storage/computing separation, uses premium cloud disks for three-copy storage to avoid data losses, and fully opens up its SA permissions.

For detailed differences, see Architecture and Instance Types.

How do I select the architecture and version of TencentDB for SQL Server if a read-only feature is required?

If read-only instances are required, we recommend that you use SQL Server 2017/2019 Enterprise two-node (formerly high-availability/cluster edition) instances to sync data more efficiently and stably. For more information, see Read-Only Instance Overview and Read-Only Instance Specifications.

How is the performance of TencentDB for SQL Server?

TencentDB for SQL Server provides the single-node architecture (formerly basic edition) and primary/replica two-node architecture (formerly high-availability/cluster edition):

The highest TPM of the single-node architecture (formerly basic edition - premium cloud disk) is 1.32 million.

The highest TPM of the single-node architecture (formerly basic edition - SSD) is 1.38 million.

The highest TPM of the primary/replica two-node architecture (formerly high-availability/cluster edition) is 4.58 million.

For more information, see Performance Test Report.

Which specifications does TencentDB for SQL Server support?

For specifications of TencentDB for SQL Server single-node (formerly basic edition) and two-node (formerly high-availability/cluster edition) instances, see Primary Instance Specifications. For specifications of read-only instances, see Read-Only Instance Specifications.

How do I select an appropriate TencentDB for SQL Server instance specification?

The TencentDB for SQL Server instance specification can be selected based on two factors: required storage capacity and performance. For supported instance specifications, see Primary Instance Specifications and Read-Only Instance Specifications. For performance details, see Performance Test Report.

In which regions is TencentDB for SQL Server available?

For regions and AZs where TencentDB for SQL Server can be deployed, see Regions and AZs.

What versions does TencentDB for SQL Server support?

Supported versions: 2008R2 Enterprise, 2012 Enterprise, 2014 Enterprise, 2016 Enterprise, 2017 Enterprise, 2019 Enterprise.

How is the compatibility of TencentDB for SQL Server?

TencentDB for SQL Server is backward compatible. For example, you can upgrade or migrate TencentDB for SQL Server 2016 to 2019 but cannot downgrade or migrate TencentDB for SQL Server 2019 to 2016.

What features does TencentDB for SQL Server offer?

Supported features vary by TencentDB for SQL Server edition. For more information, see Features and Differences and Constraints and Limits.

What are the differences in the features supported by different versions of TencentDB for SQL Server?

For features supported by different TencentDB for SQL Server editions, see Features and Differences.

How many databases can I create at most in a TencentDB for SQL Server instance?

If there are too many databases, the TencentDB for SQL Server instance performance will drop, and more resources such as worker threads will be used. If the limit on the number of created instances is exceeded, primary/replica sync exceptions may occur. We recommend that you keep the number of databases created in a single instance below the upper limit, which is subject to the CPU core quantity of the instance. For more information, see Constraints and Limits > Database quantity.

You can also use SSMS to connect to the instance and create databases, and databases created via SSMS will be automatically synced to the replica instance. However, to avoid exceptions during primary-replica sync, we recommend that you not create more databases than the specified limit.

Does TencentDB for SQL Server support real-time hot backup?

TencentDB for SQL Server two-node (formerly high-availability/cluster edition) instances support real-time hot backup in a one-primary-one-replica architecture.

What are the use cases of TencentDB for SQL Server?

TencentDB for SQL Server can be used in various use cases, including industry utility, mobile OA, gaming, healthcare, medicine, media, internet, IoT, retail, ecommerce, logistics, securities, technical service, automobile, travel, and finance. For more information, see Use Cases.

What high availability and disaster recovery capabilities does TencentDB for SQL Server have?

TencentDB for SQL Server provides disaster recovery capabilities at different levels, including instance, server, data center, AZ, and region, to ensure the business continuity on healthy systems with the minimum data loss in case of natural disasters, device failures, and maloperations.

Backup is the basis of all disaster recovery systems and the last line of defense in the high data availability architecture. TencentDB for SQL Server features rich backup capabilities, ensuring that the data can be restored quickly even after a total system crash to guarantee the business continuity as much as possible.

TencentDB for SQL Server provides instances in various architectures with guaranteed high availability:

A SQL Server 2008R2/2012/2014/2016 Enterprise two-node (formerly high-availability/cluster edition) instance is in the primary/replica two-node architecture, where the underlying layer is deployed on a physical machine. It supports the database mirroring (high-availability replication) scheme to implement automatic HA switch within seconds.

A SQL Server 2017/2019 two-node (formerly high-availability/cluster edition) instance is in the primary/replica two-node architecture, where the underlying layer is deployed on a physical machine. It adopts the Always On technology to build a SQL Server cluster that features high performance, high availability, high reliability, and easy maintenance and implements automatic HA switch within seconds.

A single-node (formerly basic edition) instance is in the single-node architecture, where the underlying layer is deployed in a CVM instance, storage and computing are separated, and data is stored in three copies in premium cloud disk to avoid data loss. In extreme cases where an instance fails, a new instance will be started to automatically restore the data from data and log backups. The specific restoration time is subject to the data volume. The servers of two TencentDB instances are usually on the same physical machine.

For intra-region disaster recovery, TencentDB for SQL Server provides multi-AZ deployment capabilities. Different AZs in the same region are interconnected over the private network, and failures can be isolated between AZs. For instances in the primary/replica two-node architecture, the primary and replica instances can be deployed in different AZs in the same region (for example, one primary instance in the primary AZ and one replica instance in the replica AZ). This improves the business continuity and guarantees the data availability in case of instance failures or AZ disconnections. You can also manually switch between the primary and replica instances in the console to verify the business robustness. Switches within the same AZ and between different AZs are imperceptible to the application.

For remote disaster recovery, cross-region backup capabilities are offered to store backup files in another region. You can set the cross-region backup retention period and multiple backup regions. After a cross-region backup policy is enabled, the instance backup files will be automatically stored in the target region. In this way, if an instance in a region fails, you can restore its backup files in the remote region to a new instance there for guaranteed business continuity. Cross-region backup implements the high availability of database restoration and meets the requirements

for data availability and security, remote backup and restoration, remote disaster recovery, long-term data archive, and regulation compliance.

In addition, TencentDB for SQL Server also has rich backup capabilities to guarantee the data security and prevent data loss or corruption. Specifically, you can configure automatic backup, manual backup, data backup, log backup, backup file format (unarchived files or archive file), instance backup, and multi-database backup. You can also customize the backup policy, backup retention period (7–1,830 days), and backup cycle.

Moreover, TencentDB for SQL Server comes with comprehensive disaster recovery capabilities at both the data and business management layers. Cross-region disaster recovery for databases is meaningful only if the business also features cross-region disaster recovery. However, cross-region distributed deployment of the business inevitably causes the split-brain problem. At the business management layer, the business is deployed in three AZs (two intra-region AZs and one remote AZ) to ensure the business continuity. Before an actual failover occurs, the system will always check whether the database sync status (database sync system table) is normal to avoid faulty failover.

What strengths does TencentDB for SQL Server have?

TencentDB for SQL Server is licensed by Microsoft to continuously provide you with the latest features, so you can avoid any risks arising from unauthorized software use. It features out-of-the-box usage, high stability, reliability, and security, elastic scaling, data security protection, and failover in seconds, allowing you to focus on application development.

Diverse editions: Two deployment architectures are available, namely, single-node architecture (formerly basic edition) and two-node architecture (formerly high-availability/cluster edition), to comprehensive guarantee the high service availability.

Official license: Licensed by Microsoft, TencentDB for SQL Server continuously provides you with the latest features, helping you avoid the risks of using unauthorized software and enhance the trustworthiness of your business in competitive markets.

Excellent performance: The new ultra-high specification of 90-core 720 GB MEM is released, with a TPM of up to 4.5 million. Both performance and cost performance have been improved by more than 30% once again, breaking Tencent Cloud's own performance record in the industry.

High stability and reliability: TencentDB for SQL Server delivers a 99.9996% data reliability and 99.95% service availability. It provides easy-to-use cloud-based control capabilities, such as monitoring and alarming, backup and restoration, data migration, and elastic scaling.

Ease of management: Various management tasks can be finished with ease in the Tencent Cloud console or SSMS, such as database management, permission configuration, and monitoring and alarming. This eliminates your concerns over database installation and Ops.

Monitoring and alarming: Dozens of key metrics can be viewed in the console, such as the number of connections and requests, disk I/O, and buffer hit rate, helping you comprehensively monitor database conditions and accurately understand the database load and system health. User-defined resource threshold alarms are supported to help you discover database exceptions timely and resolve potential system problems quickly.

BI: SSIS + BI analysis services are provided, which integrate data storage, ETL, and visual analysis to help meet your diversified needs in various use cases, including BI analysis, high-value data mining, and primary data management system setup.

What strengths does TencentDB for SQL Server have over self-built SQL Server?

TencentDB for SQL Server has the following strengths over self-built databases:

Feature	TencentDB for SQL Server	Self-Built SQL Server
Service availability	For more information, see Service Level Agreement.	You have to guarantee the service availability and set up primary/replica replication and RAID capabilities on your own.
System security	Anti-DDoS is supported, and various database security vulnerabilities are fixed in time. The data security meets all mainstream national and international security standards.	You have to deploy security services and fix vulnerabilities on your own at high costs. Security compliance is not guaranteed, and the security requirements cannot be quickly met.
Database performance	High-performance devices with a TPM of up to 4.5 million are used. For more information, see Performance Test Report.	General devices without optimization and fine-tuning are used.
Software and hardware investment	No hardware or software investment is required, and the service is pay-as-you-go.	Database servers are costly.
System hosting	There are no hosting fees.	The hosting fees are high.
Deployment and scaling	The out-of-the-box service can be quickly deployed and elastically scaled.	You have to purchase hardware devices, host them in data centers, and deploy them on your own. You also have to solve stability problems and set up many supporting modules and management tools, which require heavy investments in technology and take a long period of time.
Resource utilization	The service is billed by the actual usage and supports elastic scaling to ensure a high resource utilization.	You have to consider traffic spikes, and the resource utilization is low.
Data disaster recovery	Primary/replica replication and backup are configured by default.	You have to find the backup storage space and regularly verify whether

	Both intra-region and cross-region disaster recovery schemes are supported, such as multi-AZ deployment and cross-region backup.	backups can be restored, which cost more money and time.
Control and management services	Comprehensive cloud-based instance lifecycle management capabilities are available for various objects, including monitoring and alarming, backup and restoration, instance, database, account, network, parameter, and log.	You have to implement all control and management capabilities on your own.
Procurement costs	Instances are priced transparently and even more cost-effective than CVM.	In addition to instances, you also have to set up disaster recovery, monitoring, and management systems on your own at totally uncontrollable costs.
License	Official licenses from Microsoft continuously provide you with the latest features, eliminating your need to purchase additional licenses.	Pirated services lead to legal risks, while official licenses are expensive.
Ops costs	Tencent Cloud provides a professional team to guarantee the service quality for key accounts 24/7, eliminating your need to manually perform Ops.	You have to hire dedicated DBAs for database maintenance, which incurs high labor costs.

How do I migrate data to TencentDB for SQL Server?

You can migrate data from self-built SQL Server databases in local IDCs, CVM instances, and cloud servers provided by other cloud vendors, cloud SQL Server databases provided by other cloud vendors, and TencentDB for SQL Server databases to TencentDB for SQL Server through either cold backup migration or DTS as appropriated based on your business scenarios.

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

If your business doesn't allow you to shut down the database and requires smooth migration, you can migrate with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, CCN, and database.

Pricing and Selection

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How is TencentDB for SQL Server priced?

TencentDB for SQL Server comes with a genuine Microsoft license and can be billed in a pay-as-you-go (postpaid) manner.

The price consists of two parts: instance specification (memory capacity) and storage space (disk capacity). For pricing details for different regions, please see Product Pricing.

How do I purchase a TencentDB for SQL Server instance?

Log in to the TencentDB for SQL Server Console to create an instance or purchase an instance directly on the purchase page.

Do I have to buy an SQL Server license?

Tencent Cloud can provide TencentDB instances with "license included". The price of a "license included" model includes a SQL Server software license, underlying hardware resources, and TencentDB management features, so you don't need to purchase a Microsoft SQL Server license separately.

With a "license included" database, you only need to pay for instance specifications and usage duration and don't have to worry about hardware and licensing costs. Therefore, you only pay low variable costs instead of high fixed costs, which helps you reduce IT costs.

Note：

Purchasing TencentDB for SQL Server does not mean that you purchased a Microsoft SQL Server long-term license contract; therefore, you should not use the TencentDB license outside of this service. For more information, please see Microsoft Volume Licensing Product Terms and Online Services Terms.

The basic price of TencentDB for SQL Server does not include other Microsoft or Tencent Cloud services.

Does TencentDB for SQL Server Come with Genuine Microsoft Licensing?

TencentDB for SQL Server comes with genuine Microsoft licensing.

What is the Renewal Process for TencentDB for SQL Server?

The renewal operation extends the usage duration of an instance and supports the following two renewal actions:

On the **Instance List** page in the TencentDB for SQL Server console, choose the desired instance, and click **Renew** or choose **More** > **Set Auto-Renewal**.

On the renewal management page in the Billing Center,choose the TencentDB for SQL Server items pending renewal, choose the relevant instance, and click **Renew** or **Batch Renewal** .

For details, see Renewal Instructions.

How Do I Handle Refunds If I Purchased a TencentDB for SQL Server Instance in the Wrong Region?

If you want a refund, process it according to your instance scenario:

For pay-as-you-go instances: TencentDB for SQL Server can directly return resources, and refunds cannot be requested.

For monthly subscription instances:

Five-day unconditional self-service refund: Under each account, for monthly subscription prepaid TencentDB for SQL Server, starting from the date of purchase, within five days (including the fifth day), you are entitled by default to one instance of five-day unconditional refund.

Standard self-service refund: If you have already enjoyed the 5-day unconditional refund, we also support the self-service refund of your 199 monthly subscription TencentDB instances at any time through the console.

Billing mode switching from pay-as-you-go to monthly subscription for TencentDB does not support the 5-day unconditional refund.

In cases of suspected abnormal/malicious returns, Tencent Cloud reserves the right to refuse your return request. Before requesting a refund, view the refund instructions and notes, see Refund.

What Happens If TencentDB for SQL Server Expires with Arrears?

For monthly subscription instances:

The system will send users a renewal reminder notification via email, on-site messages, and SMS 7 days before the expiration of TencentDB resources.

If your cloud service is not renewed before it expires (including the day of expiry), the system will start to suspend the service (cutting off the network and shutting down devices, while only retaining the data) at the point of expiry.

TencentDB resources that have expired for more than seven days will be reclaimed by the system, and the data will be cleared and cannot be recovered.

For pay-as-you-go instances:

From the moment the balance becomes negative: Within 24 hours, TencentDB can continue to be used and fees will continue to be charged. After 24 hours, the TencentDB instance will be isolated, and the isolated instance cannot be accessed, while billing is stopped.

After automatic shutdown: Within 3 days of shutting down, if your account balance is not topped up to more than 0, you cannot start it. If the balance is topped up to more than 0, billing will continue, and you can start it. If the account balance is less than 0 for 3 days, the pay-as-you-go TencentDB will be reclaimed, all data will be cleared, and cannot be retrieved.

For more details, see Payment Overdue.

What Are the Differences Between Monthly Subscription and Pay-as-You-Go Billing Modes?

Monthly subscription: Also known as prepaid, where you pay for the instance when creating it. Suitable for long-term needs, more cost-effective than pay-as-you-go. The longer the purchase duration, the more discounts available. Monthly subscription instances cannot be changed to pay-as-you-go instances.

Pay-as-you-go: Also known as postpaid, where a charging order is generated every hour, and fees are deducted from the Tencent Cloud account according to the instance specifications at the time the order is created. Suitable for short-term needs. The instance can be released immediately after use, saving costs. Pay-as-you-go can be converted to a monthly subscription. For more details, see From Pay-as-You-Go to Monthly Subscription.

Can Monthly Subscription and Pay-as-You-Go Billing Modes be Converted to Each Other?

Pay-as-you-go can be changed to a monthly subscription. For details, see From Pay-as-You-Go to Monthly Subscription.

Monthly subscription instances cannot be changed to pay-as-you-go instances.

Converting TencentDB for SQL Server From Pay-as-You-Go to Monthly Subscription, How Will It Affect the Business? How Will It be Billed?

Converting from pay-as-you-go to a monthly subscription will not affect your business access in any way. Use with confidence. For billing details, see Primary Instance Pricing.

Are There Any Differences In the Features Supported by Monthly Subscription and Pay-as-You-Go?

The features supported are basically the same. For specific details about each feature, you can see Features and Differences.

Will I be Charged for TencentDB for SQL Server Pay-as-You-Go Instances When They Are Not In Use?

For pay-as-you-go instances, charges will continue to incur. You should Terminating Instance as soon as it is no longer in use to avoid further fees.

What Should I Do If There Is Insufficient Inventory of TencentDB for SQL Server Instances In a Certain Availability Zone?

When the desired availability zone has an insufficient inventory of TencentDB for SQL Server instances, you have the following options:

Purchase instances in another availability zone within the same region, and once the target availability zone is restocked, migrate the instance to the target zone. For detailed steps, see Migrating Across AZs. Instances in different availability zones within the same region can interconnect over the private network, which will not affect your use, so this method is recommended.

If your business needs are not urgent, wait for some time. Once the target availability zone has instance stock available, proceed with the purchase. However, due to varying conditions across supply chains, the time required to replenish stock cannot be determined.

If you have a significant need to purchase TencentDB for SQL Server, you can also Submit Ticket and contact us to

reserve resources in advance. We will coordinate resources for you ahead of time to ensure that you can use them as scheduled.

How Do I View the Expenditure Bill for TencentDB for SQL Server?

You can view your account's available balance, income and expenditure details, fees incurred by using TencentDB for SQL Server, and make recharge remittances through the Tencent Cloud console's billing center. For details, see Viewing Bill Details.

How Can I Terminate a TencentDB for SQL Server Instance?

Based on your business needs, you can return pay-as-you-go and monthly subscription instances through the console. For details, see Terminating Instance.

Can a Terminated TencentDB for SQL Server Instance be Recovered?

Terminated instances will be placed in the recycle bin, where they can be restored.
Monthly subscription instances entering the recycle bin: Instances in the recycle bin will be retained for 7 calendar days. If not renewed within these 7 days, the system will release resources, making them unrecoverable.
Pay-as-you-go instances entering the recycle bin: For instances voluntarily terminated by users without arrears, they are retained in the recycle bin for 24 hours. Instances not renewed on time, after the 24-hour retention duration, will have their resources released by the system, making them unrecoverable.

Can TencentDB for SQL Server Instances in Different Availability Zones of the Same Region be Interconnected Through the Private Network?

Instances in the same region but different availability zones can be interconnected using private IP addresses.

Can a Cloud Server CVM and TencentDB for SQL Server in Different Availability Zones of the Same Region be Interconnected? What Would be the Latency?

A Cloud Server CVM and TencentDB for SQL Server in different availability zones of the same region and within the same VPC can be interconnected using private IP addresses. The latency is typically around 0.5 milliseconds.

Can the Region of a TencentDB for SQL Server Instance be Modified?

After purchasing an instance, its region cannot be modified. You can use Migration from SQL Server to TencentDB for SQL Server to migrate data to an instance in the target region, and then Terminating Instance.

Can the Availability Zone of a TencentDB for SQL Server Instance be Modified?

Normally, there is no distinction among different availability zones and no need for modification. However, if there is a special need to change the availability zone of an instance, see Migrating Across AZs.

For TencentDB for SQL Server Two-Node (Formerly High-Availability or Cluster Edition) Instances, Should You Choose a Single Availability Zone or Multiple Availability Zones?

Within the same region, private networks are interconnected in the availability zones, and can achieve fault isolation between them. If your application requires higher disaster recovery capabilities, we recommend deploying your instances in different availability zones within the same region. For more details, see Multi-AZ Disaster Recovery.

How Do You Purchase a TencentDB for SQL Server Instance with Multiple Availability Zones?

Log in to the TencentDB for SQL Server console. In the instance list, click Create New Instance to enter the purchase page. On the TencentDB for SQL Server purchase page, choose the desired support region. In **Multiple Availability Zones** option, choose the corresponding standby availability zone. Only certain availability zones support standby availability zones. For specific selectable standby availability zones, see the purchase page.

How to Upgrade a TencentDB for SQL Server Instance From Single Availability Zone to Multiple Availability Zones?

Log in to the TencentDB for SQL Server console. In the instance list, choose the instance you wish to upgrade, and click **Adjust Configuration** to enter the configuration adjustment page. In the configuration adjustment page, under **Multiple Availability Zones Deployment** option, choose the corresponding standby availability zone. For more details, see Multi-AZ Disaster Recovery.

How to Restart TencentDB for SQL Server?

Restarting an instance is a common maintenance method for TencentDB for SQL Server. It is equivalent to restarting a local database. For more details, see Restarting Instance.

How to View and Manage TencentDB for SQL Server Instances?

Log in to the TencentDB for SQL Server console. In the instance list, you can view instance-related information and manage the instance. For details, see Managing TencentDB for SQL Server Instance.

What Tags Can be Used to Facilitate the Classification Management of TencentDB for SQL Server Resources?

As businesses grow, the number of devices and instances that need to be managed increases. Under the circumstances of increasing operational management projects, reasonable classification management and maintenance of resources become one of the important means of resource management.
Through Renaming Instance,Setting Instance Remarks,Setting Instance Tag,Setting Instance Project and other dimensions, users can add descriptive to the TencentDB for SQL Server instances, facilitating better management and distinction of instance resources.

What Is the Purpose of the TencentDB for SQL Server Instance Name, and How Can the Instance Name be Modified?

The instance name is primarily used for the differentiation and management of TencentDB for SQL Server instances. It can be modified via the console. For more details, see Renaming Instance.

What Is the Purpose of the Instance Remark for TencentDB for SQL Server, and How Can the Instance Remark be Set?

TencentDB for SQL Server allows users to add remarks to instances, increasing their descriptiveness for better management and distinction of instance resources. For more details, see Setting Instance Remarks.

What Is the Purpose of Instance Tags for TencentDB for SQL Server, and How Can Instance Tags be Set?

Tags are key-value pairs provided by Tencent Cloud for identifying cloud resources. They can be used to classify TencentDB for SQL Server resources based on various dimensions (such as business, purpose, owner, etc.), making it very convenient to filter and identify resources. For more details, see Setting Instance Tag.

What Is the Purpose of Instance Projects for TencentDB for SQL Server, and How Can the Project Affiliation of an Instance be Set?

The project feature is used for managing cloud resources by project, allowing for the division of cloud resources into different projects. When a TencentDB for SQL Server instance is created, the instance must be assigned to a project. Users can establish multiple projects under one account, managing different resources in each project and assigning multiple different instances to different projects. For more details, see Setting Instance Project.

Connection and Network

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How do I create an instance and connect to a database?

You can manage databases in the TencentDB for SQL Server console. For detailed directions, see Creating TencentDB for SQL Server Instance.

How do I connect to TencentDB for SQL Server?

1. To connect to TencentDB for SQL Server from a Windows CVM instance, we recommend you connect over the private network, which has a higher transfer speed and security. The following three prerequisites must be met before you can do so:

The CVM and TencentDB for SQL Server instances are under the same Tencent Cloud root account.

The CVM and TencentDB for SQL Server instances are in the same region.

The CVM and TencentDB for SQL Server instances are in the same VPC or classic network.

For more information, see Connecting to TencentDB for SQL Server Instance from Windows CVM Instance.

If the CVM and TencentDB for SQL Server instances are under different Tencent Cloud root accounts, in different regions under the same root account, or in different VPCs in the same region under the same root account, we recommend you use CCN for interconnection.

2. To connect to a TencentDB for SQL Server instance from a local system, we recommend you use VPN Connections, Direct Connect, or CCN as described in Overview, Getting Started, or Getting Started with the CCN respectively for interconnection, which are secure and guarantee a low network latency. To reduce costs, you can also use the public network for interconnection by directly enabling the public network address in the console or by enabling public network access through CLB. For more information, see Connecting to TencentDB for SQL Server Instance from Local System.

If your TencentDB for SQL Server instance is on the Dual-Server High Availability/Cluster Edition, you can use CLB to enable public network access.

How do I access a TencentDB for SQL Server instance from a CVM instance over the private network?

To connect to a TencentDB for SQL Server instance from a CVM instance over the private network, the following three prerequisites must be met:

The CVM and TencentDB for SQL Server instances are under the same Tencent Cloud root account.

The CVM and TencentDB for SQL Server instances are in the same region.

The CVM and TencentDB for SQL Server instances are in the same VPC or classic network.

For more information, see Connecting to TencentDB for SQL Server Instance from Windows CVM Instance.

What should I check when interconnecting a CVM instance and a TencentDB for SQL Server instance over the private network?

To connect to a TencentDB for SQL Server instance from a CVM instance over the private network, the following three prerequisites must be met:

The CVM and TencentDB for SQL Server instances are under the same Tencent Cloud root account.

The CVM and TencentDB for SQL Server instances are in the same region.

The CVM and TencentDB for SQL Server instances are in the same VPC or classic network.

How do I view the private network address of a TencentDB for SQL Server instance?

Log in to the TencentDB for SQL Server console and view it in the instance list. You can also click an instance ID to enter the **Instance Details** page and view it.

How do I access a TencentDB for SQL Server instance from a CVM instance under another Tencent Cloud root account?

CVM and TencentDB for SQL Server instances under different Tencent Cloud accounts cannot interconnect over the private network. We recommend you migrate the TencentDB for SQL Server instance to the account of the CVM instance.

If you need to keep the instances under different Tencent Cloud accounts, make sure that their are both in VPCs and create a CCN instance as described in Getting Started with the CCN between the two VPCs for interconnection.

How do I interconnect a CVM instance and a TencentDB for SQL Server instance in different regions under the same Tencent Cloud root account over the private network?

CVM and TencentDB for SQL Server instances in the same AZ or different AZs in the same region can interconnect over the private network, while instances in different regions cannot.

If you need to keep the instances in different regions, make sure that their are both in VPCs and create a CCN instance as described in Getting Started with the CCN between the two VPCs for interconnection.

How do I interconnect a CVM instance and a TencentDB for SQL Server instance in different VPCs in the same region under the same Tencent Cloud root account over the private network?

CVM and TencentDB for SQL Server instances in different VPCs cannot interconnect over the private network. We recommend you migrate the TencentDB for SQL Server instance to the VPC of the CVM instance.

If you need to keep the instances in different VPCs, create a CCN instance as described in Getting Started with the CCN between the two VPCs for interconnection.

How do I interconnect a CVM instance and a TencentDB for SQL Server instance in different types of networks in the same region under the same Tencent Cloud root account over the private network?

CVM and TencentDB for SQL Server instances in different types of networks cannot interconnect over the private network. We recommend you change the classic network of the CVM or TencentDB for SQL Server instance to VPC and ensure that the instances are in the same VPC for interconnection over the private network.

How do I interconnect a CVM instance and a TencentDB for SQL Server instance in different AZs in the same region under the same Tencent Cloud root account over the private network?

CVM and TencentDB for SQL Server instances in different AZs in the same region may or may not be in the same VPC.

If they are in different AZs in the same VPC, they can interconnect over private network.

If they are in different VPCs, they cannot interconnect over the private network. You need to change their VPCs to the same VPC. For more information, see Changing Network (from VPC to VPC).

Can I interconnect a CVM instance and a TencentDB for SQL Server instance in different AZs in the same VPC under the same Tencent Cloud root account?

Yes. Instances in different AZs but in the same VPC interconnect over private network by default.

How do I access a TencentDB for SQL Server instance from a local server?

To connect to a TencentDB for SQL Server instance from a local server, we recommend you use VPN Connections, Direct Connect, or CCN for interconnection, which are more secure and guarantee a low network latency.

To reduce costs, you can use the public network for interconnection by directly enabling the public network address in the console or by enabling public network access through CLB. For more information, see Connecting to TencentDB for SQL Server Instance from Local System.

If your TencentDB for SQL Server instance is on the Dual-Server High Availability/Cluster Edition, you can use CLB to enable public network access.

How do I connect to a TencentDB for SQL Server instance without a CVM instance?

If you don't have a CVM instance, we recommend you use VPN Connections, Direct Connect, or CCN to interconnect the networks and then connect to the TencentDB for SQL Server instance. For more information, see Connecting to TencentDB for SQL Server Instance from Local System.

How do I switch a TencentDB for SQL Server instance from VPC A to VPC B?

You can change the VPC of a TencentDB for SQL Server instance as instructed in Changing Network (from VPC to VPC).

How do I switch between the classic network and VPC for a TencentDB for SQL Server instance?

You can only switch from classic network to VPC for a TencentDB for SQL Server instance but not vice versa. For more information, see Switching from Classic Network to VPC. Classic network will be deactivated in December 2022.

How do I migrate a TencentDB for SQL Server instance from classic network to VPC?

You can switch from classic network to VPC for a TencentDB for SQL Server instance. For more information, see Switching from Classic Network to VPC.

How do I enable public network access for a TencentDB for SQL Server instance?

If your TencentDB for SQL Server instance is on the High Availability Edition or Cluster Edition, you can directly enable the public network address in the console or enable public network access through CLB. For more information, see Enabling/Disabling Public Network Address or Enabling Public Network Access Through CLB.

How do I use the port mapping feature of SSH2 to connect to and manage a TencentDB for SQL Server instance from the internet?

For security considerations, if your business doesn't allow enabling the public network address, you can use the port mapping feature of SSH2 to connect to, configure, and manage an instance from the internet. For detailed directions, see Connecting to TencentDB for SQL Server Instance from Local System.

Does my application need to support automatic reconnection to TencentDB for SQL Server?

We recommend you configure automatic reconnection for your application for a higher availability. After a database is switched or migrated, the application can recover automatically with no manual intervention needed. We also recommend you use a persistent connection to connect your application to the database, as non-persistent connections consume many resources and compromise the performance.

Can I access a TencentDB for SQL Server replica instance?

TencentDB for SQL Server supports the mode of primary + replica + read-only instances. Only the primary and read-only instances can be accessed, while the replica instance is used for backup only and doesn't support business access.

Will a primary/replica switch affect the connection address?

A primary/replica switch won't change the connection address, but the IP address on the backend will change, and there will be a momentary disconnection during the switch.

How do I configure a security group in TencentDB for SQL Server?

A security group is a stateful virtual firewall capable of filtering. As an important means for network security isolation provided by Tencent Cloud, it can be used to set network access controls for one or more TencentDB instances. Instances with the same network security isolation demands in one region can be put into the same security group, which is a logical group.

TencentDB and CVM share the security group list and are matched with each other within the security group based on rules. For more information, see Configuring Security Group.

Can I use a security group in TencentDB for SQL Server to control the classic network?

TencentDB for SQL Server security groups currently only support network access control for VPCs and public network but not the classic network.

Can I select the SQL Server (1433) port as the type when adding an inbound rule to a security group?

When adding a security group, you can select **SQL Server (1433)** for **Type** to open protocol port 1433. For more information, see Configuring Security Group.

How do I set the instance maintenance time in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, click the ID of the target instance in the instance list to enter the instance details page, and click **Modify** in **Maintenance Info**. For more information, see Setting Instance Maintenance Information.

Will TencentDB for SQL Server be disconnected during the maintenance?

If data migration needs to be performed during the maintenance of TencentDB for SQL Server, instance switch is accompanied by a disconnection from the database lasting for just seconds. Make sure that your business has a reconnection mechanism. For more information, see Setting Instance Maintenance Information.

Why can't I connect to TencentDB for SQL Server?

Troubleshoot as follows if you can't connect to TencentDB for SQL Server:
Check whether the CVM instance can properly connect to the port of the address of the TencentDB for SQL Server instance by running `telnet <connection address> <port number>`. If the port can be accessed, the network is normal; otherwise, check whether the CVM and TencentDB for SQL Server instances are in the same VPC and same security group. If you use the private network for connection, the instances must be in the same VPC, and the connection can be initiated from CVM only.
Check whether the connection IP and port are correct and separated by comma.
Check whether the status of the TencentDB for SQL Server instance is abnormal.
Check whether the database username and password are correct and try resetting the password.
Try restarting the TencentDB for SQL Server instance and check whether the problem is resolved.

What should I do If I fail to connect to TencentDB for SQL Server?

1. If the connection to a TencentDB for SQL Server instance from a Windows CVM instance failed:
Troubleshoot network problems.
Check whether the CVM and TencentDB for SQL Server instances are in the same VPC in the same region.

Check security group rules. When a database in the security group is accessed from an address not in the security group, you need to add a corresponding inbound rule to the security group as instructed in Configuring Security Group. Check CVM security groups, internal firewalls, and internal/custom security policies, and open port 1433 for the specified TencentDB instance IP.

Check whether the CVM instance can properly connect to the port of the address of the TencentDB for SQL Server instance by running `telnet <connection address> <port number>` . If the port can be accessed, the network is normal.

Troubleshoot instance problems.

If the network is normal, check the instance monitoring information in the console. If the instance load is too high or there is no or intermittent monitoring data, the instance is abnormal.

2. If the connection to a TencentDB for SQL Server instance from a local IDC fails:

Troubleshoot network problems.

To connect to a TencentDB instance from a local server, you first need to interconnect the local and cloud networks. We recommend you use VPN Connections, Direct Connect, or CCN for interconnection, which are more secure and guarantee a low network latency.

Check whether the server can properly connect to the port of the address of the TencentDB for SQL Server instance by running `telnet <connection address> <port number>` . If the port can be accessed, the network is normal.

If telnet fails, the network is disconnected, and you need to check local security group policies and VPC routing configurations, open port 1433 for the specified database IP, and perform online and offline CVM instance connectivity tests.

Troubleshoot instance problems.

If the network is normal, check the instance monitoring information in the console. If the instance load is too high or there is no or intermittent monitoring data, the instance is abnormal.

Account and Permission

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How do I manage the account of a TencentDB for SQL Server instance?

We recommend that you manage accounts in the TencentDB for SQL Server console rather than on the SSMS client. Click the ID of the target instance to enter the instance management page. On the **Account Management** tab, you can create and delete accounts and modify account permissions.

How do I manage TencentDB for SQL Server databases?

We recommend that you manage databases in the TencentDB for SQL Server console rather than on the SSMS client. You can click the ID of the target instance to enter the instance management page. On the **Database Management** tab, you can perform the following operations: Creating Database, Deleting Database, and Setting Database Permissions.

How do I create an account in TencentDB for SQL Server?

We recommend that you create an account in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Creating Account.

How do I delete an account in TencentDB for SQL Server?

We recommend that you delete an account in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Deleting Account.

How do I modify account permissions in TencentDB for SQL Server?

We recommend that you modify account permissions in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Modifying Account Permissions.

How do I create a database in TencentDB for SQL Server?

We recommend that you create a database in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Creating Database.

How do I delete a database in TencentDB for SQL Server?

We recommend that you delete a database in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Deleting Database.

How do I modify database permissions in TencentDB for SQL Server?

We recommend that you modify database permissions in the TencentDB for SQL Server console rather than on the SSMS client. For more information, see Setting Database Permissions.

When managing a database with Microsoft SQL Server Management, I was prompted with the message "Login failed. The login is from an untrusted domain and cannot be used with Windows authentication." Why?

Change the authentication method to "SQL Server Authentication".

Does TencentDB for SQL Server support assigning the sysadmin role to users?

Two-node (formerly High Availability/Cluster Edition) instances: For intrusion prevention considerations, the sysadmin role cannot be assigned to users by default. If your business requires this role, submit a ticket for assistance. If you use SSMS to manage databases, the system may prompt that you must have the sysadmin role to perform the operation.
Single-node (formerly Basic Edition) instances: The sysadmin role can be provided through the admin account. Note that the admin account has the highest-level sysadmin permission and the owner permissions of all databases. After it is enabled, the product SLA will no longer be guaranteed.

How do I create an account with SA permissions in TencentDB for SQL Server?

For TencentDB for SQL Server two-node (formerly High Availability/Cluster Edition) instances, if your business requires the sysadmin role, submit a ticket for assistance. For single-node (formerly Basic Edition) instances, the sysadmin role can be provided through the admin account in the console. Note that the admin account has the highest-level sysadmin permission and the owner permissions of all databases. After it is enabled, the product SLA will no longer be guaranteed.

Can I connect to TencentDB for SQL Server with a Windows system account?

You cannot connect to a TencentDB for SQL Server non-single-node instance with a Windows system account. To connect to a single-node instance with such account, submit a ticket for application.

What should I do if I forget the login password of TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console and click the ID of the target instance to enter the instance management page. On the **Account Management** tab, select **More** > **Reset Password** in the **Operation** column to reset the password. For more information, see Resetting Password.

How do I reset the password of TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console and click the ID of the target instance to enter the instance management page. On the **Account Management** tab, select **More** > **Reset Password** in the **Operation** column to reset the password. For more information, see Resetting Password.

What should I do if I cannot create any database or table?

Your login account may be a business account without database/table creation permissions. In this case, grant the account the required permissions in the TencentDB for SQL Server console. For more information, see Setting

Database Permissions.

Why do I lack permissions to modify database parameters such as `blocked process threshold(s)` ?

You might be using a sub-account without parameter modification permissions. You can use the root account or grant the sub-account permissions as instructed in CAM > Overview.

Can I have the permission to access and create folders on the server in TencentDB for SQL Server?

Currently, TencentDB for SQL Server doesn't allow you to access and create folders on the instance server.

Can I view connection details in TencentDB for SQL Server?

You can view connection details after connecting to the instance through SSMS. If you don't have relevant permissions, submit a ticket for escalating your database account permissions.

Can I view the slow SQL table in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, click the target instance ID in the instance list, and query and download slow query logs on the operation log page.
The slow SQL table of TencentDB for SQL Server is not displayed by default. You can view it after connecting to the instance through SSMS. If you don't have relevant permissions, submit a ticket for escalating your database account permissions.

Can I have the SQL trace permission in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, and you can see that the SQL trace permission is granted to accounts created on the **Account Management** tab by default.
If your account is created manually through the SSMS client, it doesn't support SQL trace by default. You can run the following command to authorize it with the admin account as needed: `GRANT ALTER TRACE TO [$account];` .

Why does the system prompt that I don't have the permission to enable Profiler in TencentDB for SQL Server?

Accounts created on the **Account Management** tab in the TencentDB for SQL Server console have the Profiler permission by default. However, accounts manually created through SSMS don't have such permission. In this case, you can run the following command to authorize them: `GRANT ALTER TRACE TO [$account];` .

Can I use accounts created in the primary instance in read-only instances?

Accounts created in the primary instance will be synced to read-only instances but cannot be managed there. They only support read but not write operations in read-only instances.

Will permissions be synced to replica instances and read-only instances automatically after an account in the primary instance is deleted and created again?

After an account in the TencentDB for SQL Server primary instance is deleted and created again, the permissions and other modifications in the primary instance will be automatically synced to replica instances and read-only instances.

How do I sync account permissions on two-node (formerly High Availability/Cluster Edition) primary and replica instances to read-only instances?

Accounts created in a two-node (formerly High Availability/Cluster Edition) primary instance will be automatically synced to read-only instances. 2017/2019 Enterprise two-node instances use the Always On mode for sync, while 2008R2/2012/2014/2016 Enterprise two-node instances use the publish/subscribe mode for sync. Accounts created in the primary instance in the console will be synced to read-only instances in real time. After the sync is completed, you can use the created login username or modify the password permission in read-only instances.

Can I manage database accounts at a finer granularity (such as source address and access table)?

You can use commands for authorization at a finer granularity after connecting to a database.

Which account permissions are granted by default in TencentDB for SQL Server?

The following account permissions are granted in TencentDB for SQL Server by default:

Server-level roles:

Securityadmin: Manages login and the `CREATE DATABASE` permission and views the audit information.

Processadmin: Manages SQL Server processes.

Dbcreator: Creates and modifies databases.

Database-level roles:

db_owner: Owns the database and performs all database operations.

db_datareader: Views the data in all user tables in a database.

db_reader: Reads data in the database.

db_writer: Writes data to the database.

Backup and Rollback

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How do I back up TencentDB for SQL Server?

TencentDB for SQL Server has rich backup capabilities to guarantee the data security and prevent data loss or corruption. You can manage and view backups on the **Backup Management** page in the console. Specifically, you can configure automatic backup, manual backup, data backup, log backup, backup file format (unarchived files or archive file), instance backup, multi-database backup, and cross-region backup. You can also customize the backup policy, backup retention period (7–1,830 days), and backup cycle. For more information, see Backup Overview.

How do I configure automatic backup?

You can do so on the **Backup Management** page in the TencentDB for SQL Server console. For more information, see Configuring Automatic Backup.

How do I create a backup manually?

You can do so on the **Backup Management** page in the TencentDB for SQL Server console. For more information, see Creating Manual Backup.

How do I view and modify backup policies?

You can do so on the **Backup Management** page in the TencentDB for SQL Server console. For more information, see Configuring Automatic Backup.

How long can TencentDB for SQL Server retain a backup?

The retention period of TencentDB for SQL Server automatic backups is seven days by default and can be customized. The validity period is subject to the configured number of backup days. For more information, see Configuring Automatic Backup.

If not manually deleted, manual backups will be retained for the same period as automatic backups. You can delete them as instructed in Deleting Manual Backup.

Can I delete backups manually?

You can't delete automatic backups manually, but you can set the retention period for them so that they are deleted automatically upon expiration.

Manual backups can be manually deleted from the backup list in the TencentDB for SQL Server console. If they are not manually deleted, they will be retained for the same period as automatic backups.

Can I disable data and log backups?

No. However, you can lower the backup frequency and delete manual backup files that are no longer used in the [TencentDB for SQL Server console](#) to reduce the backup space usage.

Why can't I initiate a manual backup task?

You need to check the automatic backup time you configured. If the instance is performing the daily automatic backup task, you cannot initiate a manual backup task.

How do I cancel a backup task?

Backup tasks in TencentDB for SQL Server cannot be canceled.

Is a database available during the backup time period?

A backup window is a custom time period for daily automatic backup, during which the TencentDB for SQL Server instance will be backed up. Based on such regular backups, TencentDB for SQL Server allows you to roll back the instance to a backup point within the retention period. During the backup window, the business won't be affected, but you cannot restart or manually backup the instance in the TencentDB for SQL Server console.

How do I back up a database?

Log in to the [TencentDB for SQL Server console](#), click the ID of the target instance in the instance list, select the **Backup Management** tab, click **Backup Task Settings**, and set **Upload Backup File** to **Unarchived files**. Then, the .bak file of each database in the instance will be directly uploaded to COS without being archived. For more information, see [Setting Backup Task](#).

How do I set to perform a backup task on the replica instance in TencentDB for SQL Server?

Log in to the [TencentDB for SQL Server console](#), click the ID of the target instance in the instance list, select the **Backup Management** tab, click **Backup Task Settings**, and set **Execute Backup Task** to **On the replica node**. For more information, see [Setting Backup Task](#). You can configure this option only for 2017/2019 Cluster Edition instances.

How do I download backup files of TencentDB for SQL Server?

The TencentDB for SQL Server console provides the list of backup files that can be downloaded over the private or public network.

Log in to the [TencentDB for SQL Server console](#), click the ID of the target instance in the instance list, select the **Backup Management** tab, and click **Download** in the **Operation** column of a backup file in the backup list to get its private/public network download addresses. You can also directly click **Download** to download the file. For more information, see [Downloading Backup](#).

Can I use a third-party tool to automatically back up TencentDB for SQL Server?

TencentDB for SQL Server cannot be backed up with third-party tools. For security considerations, third-party tools cannot be granted the permissions of data directories on the physical machine. You can initiate backup tasks only in the console.

Can I download or restore backup files that exceed the retention period?

Expired backup sets will be automatically deleted and cannot be downloaded or restored.
We recommend that you configure a backup retention period based on business needs or download the backup files locally in the TencentDB for SQL Server console.
You can also manually back up instance data in the console. Manual backups will be retained permanently.
Note:
Manual backups will also take up the backup space. We recommend that you plan the usage of the backup space appropriately to reduce costs.

Can I download the backup files of an isolated instance?

Yes.
A pay-as-you-go instance will be isolated and moved into the recycle bin 24 hours after expiration. At this time, rollback and manual backup will be prohibited, but automatic backup can still be downloaded by clicking **More** in the **Operation** column of the instance. Excessive backup space of the instance will continue to be billed until the instance is eliminated.

Will backup files still be retained after a TencentDB for SQL Server instance is deleted?

After a TencentDB for SQL Server instance is deleted, all its backup files will be deleted automatically. To retain the data, back up the data first before deleting the instance.

How is the TencentDB for SQL Server backup space billed?

TencentDB for SQL Server offers a certain amount of backup space free of charge by region, which is equivalent to the sum of storage spaces of all Basic Edition, Dual-Server High Availability Edition, and Cluster Edition primary instances in a region. For the pricing of backup space beyond the free tier, see Backup Space Billing.

What should I do if the free tier of the backup space is exceeded?

If the size of backup files exceeds the free tier of the backup space, you can increase the storage space or reduce the backup space usage.
Instance backup files will use the backup space. Each TencentDB for SQL Server instance provides a certain free tier of backup space, and excessive usage will incur additional fees.

How do I reduce the backup space cost?

Delete manual backups that are no longer used. You can do so on the **Instance Management** > **Backup Management** page in the TencentDB for SQL Server console.

Reduce the frequency of automatic data backup for non-core businesses. You can adjust the backup cycle and backup file retention period in the console, which should be at least twice a week.

Note:

The rollback feature relies on the backup cycle and retention days of data backups and log backups. Rollback will be affected if you reduce the automatic backup frequency and retention period. You can select the parameters as needed. For more information, see Rolling back Databases.

Shorten the retention period of data and log backups for non-core businesses. A retention period of seven days can meet the needs in most cases.

Business Scenario	Recommended Backup Retention Period
Core businesses	7-1,830 days
Non-core, non-data businesses	7 days
Archival businesses	7 days. We recommend that you manually back up data based on your actual business needs and delete the backups promptly after use
Testing businesses	7 days. We recommend that you manually back up data based on your actual business needs and delete the backups promptly after use

How do I view the backup space usage of TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console and select **Database Backup** to view the backup space statistics and trends of all instances in each region under your account as well as the real-time backup space statistics of each instance. For more information, see Viewing Backup Space.

How do I roll back a TencentDB for SQL Server instance?

The retention period of TencentDB for SQL Server data backups is seven days by default and can be customized. The retention period of log backups is the same as that of data backups. You can roll back the instance data to any time point within the configured backup retention period. For more information, see Rolling back Database.

How do I clone a database in a TencentDB for SQL Server instance?

TencentDB for SQL Server provides the database cloning feature for you to quickly clone an existing database to your current instance. You need to specify the new database name during cloning, while other information such as account permissions of the new database is the same as that of the source database. For more information, see Cloning Database.

What can I do with downloaded data and log backups?

You can use backup files to restore data to other TencentDB or self-built databases at any time. For more information, see Cold Backup Migration.

Can I restore a downloaded backup to another TencentDB for SQL Server instance?

In the TencentDB for SQL Server console, you can use the cold backup migration feature to restore a database to another TencentDB for SQL Server instance from the downloaded backup file. For more information, see Cold Backup Migration.

How do I restore a backup of a self-built database to TencentDB for SQL Server?

In the TencentDB for SQL Server console, you can directly upload the backup file of a self-built database or download it from COS to restore it to TencentDB for SQL Server through the cold backup migration feature. For more information, see Cold Backup Migration.

Can I restore a full backup of TencentDB for SQL Server to a self-built database?

TencentDB for SQL Server supports full backup. After downloading a backup file, you can restore it to a self-built database as needed. For more information, see Downloading Backup.

What are the differences between direct backup upload and backup download from COS in cold backup migration?

Direct backup upload: You can upload a local backup file to COS and download and restore it to TencentDB for SQL Server. Backup files uploaded to COS don't use any backup space. However, they can be retained for only 24 hours and will be deleted automatically after then.
Backup download from COS: You can download a backup file from your COS bucket and restore it to TencentDB for SQL Server.

If I directly upload a backup file in cold backup migration, will the file use my backup space?

Backup files uploaded in backup and restoration scenarios are directly uploaded to COS for relay and don't use your backup space. Once successfully uploaded, they will be retained for only 24 hours and will be deleted automatically after then.

Data Migration

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How do I migrate data to TencentDB for SQL Server?

You can migrate data from self-built SQL Server databases in local IDCs, CVM instances, and cloud servers provided by other cloud vendors, cloud SQL Server databases provided by other cloud vendors, and TencentDB for SQL Server databases to TencentDB for SQL Server through either cold backup migration or DTS as appropriated based on your business scenarios.

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

If your business doesn't allow you to shut down the database and requires smooth migration, you can do so as instructed in Migration with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, CCN, and database.

How do I migrate a self-built SQL Server database in my local IDC to TencentDB for SQL Server?

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

If your business doesn't allow you to shut down the database and requires smooth migration, you can do so as instructed in Migration with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, and CCN.

How do I restore a backup of a self-built database to TencentDB for SQL Server?

In the TencentDB for SQL Server console, you can directly upload the backup file of a self-built database or download it from COS to restore it to TencentDB for SQL Server through the cold backup migration feature. For more information, see Cold Backup Migration.

I have purchased a TencentDB for SQL Server instance. How do I restore a local .bak file to it?

In the TencentDB for SQL Server console, you can directly upload the .bak backup file of a self-built database or download it from COS to restore it to TencentDB for SQL Server. For more information, see Cold Backup Migration.

How do I migrate a self-built SQL Server database in a CVM instance to TencentDB for SQL Server?

If your business doesn't allow you to shut down the database and requires smooth migration, you can do so as instructed in Migration with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, and CCN.

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

How do I migrate a self-built SQL Server database in another cloud vendor to TencentDB for SQL Server?

If your business doesn't allow you to shut down the database and requires smooth migration, you can do so as instructed in Migration with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, and CCN.

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

How do I migrate a cloud SQL Server instance in another cloud vendor to TencentDB for SQL Server?

If your business doesn't allow you to shut down the database and requires smooth migration, you can do so as instructed in Migration with DTS. DTS supports two migration modes: full migration and full + incremental migration. It supports multiple access types, such as public network, self-build on CVM, Direct Connect, VPN, and CCN.

If your business allows you to shut down the database for backup, you can use cold backup migration, i.e., restoring data from .bak backup files to migrate the source database to a TencentDB for SQL Server instance. You can download COS files or upload local files for migration. Three data restoration modes are supported: full backups, full backups + log backups, and full backups + differential backups.

How do I migrate a TencentDB for SQL Server two-node (formerly high-availability/cluster edition) instance to a single-node (formerly basic edition) instance?

If the source instance is a two-node (formerly high-availability/cluster edition) instance, it cannot be migrated to a single-node (formerly basic edition) instance through DTS. You can use .bak files to restore the data through Cold Backup Migration.

How do I migrate a TencentDB for SQL Server single-node (formerly basic edition) instance to a two-node (formerly high- availability/cluster edition) instance?

If the source instance is a single-node (formerly basic edition) instance, you can do so as instructed in Migration with DTS.

How do I migrate a TencentDB for SQL Server two-node (formerly high-availability/cluster edition) instance to another two-node (formerly high-availability/cluster edition) instance?

If the source instance is a two-node (formerly high-availability/cluster edition) instance, you can do so as instructed in Migration with DTS to migrate the data to an instance on a later version, which is not recommended though. Instead, you can upgrade the version without data migration by following instructions in Adjusting Instance Version.

Does TencentDB for SQL Server support cross-account migration?

TencentDB for SQL Server allows you to migrate data between instances with DTS across Tencent accounts. For detailed precautions and directions, see Cross-Account Migration with DTS.

Does TencentDB for SQL Server support heterogeneous migration?

No.

Does TencentDB for SQL Server support data sync with a self-built database?

No.

How do I connect Kingdee K/3 WISE to TencentDB for SQL Server?

You can connect Kingdee K/3 WISE to TencentDB for SQL Server in the following steps: migrate the data to TencentDB for SQL, execute distributed transactions between the TencentDB for SQL Server and Windows CVM instances, and initialize account set management. After you complete all the settings above, distributed transactions can be supported between the CVM and TencentDB for SQL Server instances, and you can log in to and use Kingdee K/3 WISE normally. For more information, see Connecting Kingdee K/3 WISE to TencentDB for SQL Server.

What should I check before using DTS for data migration to the cloud?

We recommend that you check the following items in the source and target databases before using DTS for data migration to the cloud:
Version numbers of source and target databases. The target database must be on a version later than or equal to the source database. For example, if the source database is on v2016, the target database can only be on v2016, v2017, or v2019.
Architecture versions of source and target databases. If the source instance is a self-built database in a local IDC, CVM instance, or cloud server in another cloud vendor, or is a cloud SQL Server instance in another cloud vendor, you can migrate it to a TencentDB for SQL Server single-node (formerly basic edition) instance or two-node (formerly high-availability/cluster edition) instance on any architecture version. If the source instance is a TencentDB for SQL Server two-node (formerly high-availability/cluster edition) instance, it cannot be migrated to a single-node (formerly basic edition) instance through DTS. If the source instance is a TencentDB for SQL Server single-node (formerly

basic edition) instance, it can be migrated to a two-node (formerly high-availability/cluster edition) instance through DTS.

Network connectivity between source and target databases. The source and target databases must be connected.

The server where the source database resides must have enough outbound bandwidth; otherwise, the migration efficiency will be affected.

Names of source and target databases. The source and target instances cannot have databases with the same name.

Account permissions of the source database. You need to change to "local" for SQL service startup in the source database. The source database account is unrestricted but needs to have the sysadmin permissions.

Account permissions of the target database. The target database needs to have an account with admin permissions for migration.

Ports of the source database. The source database needs to open port 1433, and the service where the source database is located must open the file sharing port 445 for Windows server sharing.

Recovery model of the source database. The source database must be set to "full recovery model", and we recommend that you make a full backup before migration.

Local disk space of the source database. The local disk space of the source database must be large enough, so that the remaining free space can fit the size of the database to be migrated.

Disk space of the target database. The disk space of the target database must be at least 1.5 times the size of the source database.

Status of the target database. The target database cannot have access requests or active businesses; otherwise, the migration will fail.

What should I check when using DTS for data migration to the cloud?

You need to keep the following operation limits in mind when using DTS for migration:

Only one migration task can be initiated at any time for the same source instance.

Only database-level migration is supported (i.e., all objects in the database must be migrated together), while single-table migration is not supported.

Logins, jobs, triggers, and database links (link server) at the instance level cannot be migrated.

Do not modify or delete user information (including username, password, and permissions) in the source and target databases and port numbers during migration; otherwise, the migration task will fail.

Do not perform transaction log backup during incremental sync; otherwise, the transaction log will be truncated and become discontinuous.

If you only perform full data migration, do not write new data into the source database during migration; otherwise, the data in the source and target databases will be inconsistent. In scenarios with data writes, to ensure the data consistency in real time, we recommend that you select full + incremental data migration.

For full + incremental data migration, after you click **Complete** and the task status becomes **Completed**, do not write new data to the source database. We recommend that you stop writing for two minutes; otherwise, the data in the source and target databases may be inconsistent.

What should I check after using DTS for data migration to the cloud?

We recommend that you check the following items in the target database after using DTS for migration:
Permission completeness. Permissions will affect operations performed on the database. The migration only restores data. To restore other service-level permissions, such as database users and login usernames, you need to create them again and associate them with database accounts.
It is recommended to rebuild the indexes. Following the completion of migration, the physical environment of the data files undergoes a transformation, and the database index statistics may not be updated promptly. Rebuilding the indexes is advised; otherwise the database performance might deteriorate.
Instance-level objects such as logins, jobs, triggers, and database links (link server). You need to create them again after the migration is completed.

Publish/Subscribe

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Does TencentDB for SQL Server support publish/subscribe?

The publish/subscribe feature is available only when both the publishing and subscribing instances are TencentDB for SQL Server instances. In addition, this feature is supported only for TencentDB for SQL Server two-node (formerly High Availability/Cluster Edition) but not single-node (formerly Basic Edition) instances.

Does a TencentDB for SQL Server single-node (formerly Basic Edition) instance support publish/subscribe?

No.

How do I implement publish/subscribe between a self-built SQL Server database in my local IDC and a TencentDB for SQL Server instance?

The publish/subscribe feature is not supported between a self-built SQL Server database in a local IDC and a TencentDB for SQL Server instance. It is available only when both the publishing and subscribing instances are TencentDB for SQL Server instances.

What are the use cases of the publish/subscribe feature of TencentDB for SQL Server?

TencentDB for SQL Server supports the native publish/subscribe-based replication feature of Microsoft SQL Server. You can create, change, and delete publishing and subscribing servers in the TencentDB for SQL Server console for data replication and sync in your business.

What are the prerequisites for using the publish/subscribe feature of TencentDB for SQL Server?

This feature is available only when both the publishing and subscribing instances are TencentDB for SQL Server instances.

This feature is supported only for TencentDB for SQL Server two-node (formerly High Availability/Cluster Edition) but not single-node (formerly Basic Edition) instances.

The publishing and subscribing instances must be on the same edition, such as 2017 Enterprise Edition.

The publishing and subscribing instances must be in the same region (but they can be in different AZs). For example, if the publishing instance is in Beijing Zone 5, the subscribing instance can be in Beijing Zone 7.

A read-only instance cannot be used as a publishing or subscribing server.

If the publishing and subscribing instances have a database with the same name, the database cannot be subscribed to.

Data tables without a primary key cannot be subscribed to. You can use the following code to check whether the database to be published contains this type of tables:

```
use dbname
select name from sys.sysobjects where xtype='U' and id not in(select parent_obj fro
```

After a publish/subscribe linkage is created, if a database in the linkage is deleted, the linkage will also be deleted.

If either the publishing or subscribing instance is terminated, the publish/subscribe linkage will also be deleted.

You can configure up to 80 databases to be published/subscribed to in each publish/subscribe task.

How do I create a publish/subscribe task in TencentDB for SQL Server?

Log in to the SQL Server console, click the ID of the target instance in the instance list to enter the instance management page, select the **Publish**/**Subscribe** tab, and click **Create** to create a publish/subscribe task.

How do I delete the publish/subscribe relationship between two TencentDB for SQL Server instances?

Log in to the TencentDB for SQL Server console, click the ID of the target instance in the instance list to enter the instance management page, select the **Publish**/**Subscribe** tab, select the task to be deleted, and click **Delete**. You can also batch delete multiple tasks.

Read-Only Instance

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How do I view a read-only instance in TencentDB for SQL Server?

1. Log in to the TencentDB for SQL Server console. In the instance list, instances with an **R** tag are read-only instances. Click the ID of a read-only instance or **Manage** in the **Operation** column to enter its details page.

2. In the **Instance Architecture Diagram** on the instance details page, you can view the information of the bound primary instance. You can click the instance ID to enter the details page of the primary instance. You can also enter the details page of the read-only instance from the **Instance Architecture Diagram** of the primary instance.

In addition, some features on the read-only instance details page cannot be modified and are synced from the primary instance. If you need to change them, do so on the primary instance details page. For more information, see Managing Read-Only Instance.

Does TencentDB for SQL Server support read/write separation?

Yes. TencentDB for SQL Server doesn't support unified read/write separation addresses, that is, read and write requests are separated automatically. Currently, the read-only instance needs to be accessed through a separate IP and port. After creating a read-only instance, you need to configure the connection addresses for both the primary instance and each read-only instance in your application. This configuration allows you to send write requests to the primary instance and read requests to the read-only instances. For more information, see Read-Only Instance Overview.

How do I create a read-only instance in TencentDB for SQL Server?

1. Log in to the TencentDB for SQL Server console. In the instance list, click the ID of an instance or **Manage** in the **Operation** column to enter its details page.

2. Click **Add Read-Only Instance** in the **Instance Architecture Diagram** on the instance details page or click **Create** on the **Read-Only Instance** page to enter the purchase page. For more information, see Managing Read-Only Instances.

How do I create an RO group in TencentDB for SQL Server?

TencentDB for SQL Server allows you to create one or multiple read-only instances to form an RO group, which is suitable for read/write separation and one-primary-multiple-replica scenarios and capable of greatly enhancing the read load capacity of your database. For more information, see Read-Only Group.

How long is the sync delay between the TencentDB for SQL Server primary and read-only instances?

SQL Server versions earlier than 2017 adopt replication sync, which has a delay of 3–5 seconds. If you use the Always On read-only replica feature of SQL Server 2017 and 2019, the sync delay will be 1–2 seconds.

Is there any difference between the read-only instances of various versions? How do I select the version of TencentDB for SQL Server if a read-only feature is required?

Read-only instances vary by version. If your business requires read-only instances, we recommend that you choose instances on v2017 or later for the following reasons:

On versions earlier than 2017, the publish/subscribe mode is used to create read-only instances, and data can be synced at the object level with a delay of 3–5 seconds. To use read-only instances, we recommend that you upgrade the primary instance to v2017 or later first in order to guarantee an efficient and stable data sync.

In the two-node architecture (formerly high availability/cluster edition) on 2017 Enterprise and later versions, the Always On mode is used to create read-only instances, and data sync is more efficient and stable with a delay of 1–2 seconds.

Can I use accounts created in the primary instance in read-only instances?

Accounts created in the primary instance will be synced to read-only instances but cannot be managed there. They support only read but not write operations in read-only instances.

How many read-only instances can I create for a TencentDB for SQL Server primary instance at most?

You can create up to five read-only instances for a primary instance. To create more, submit a ticket for assistance.

Does TencentDB for SQL Server support data migration to read-only instances?

No.

Do TencentDB for SQL Server read-only instances support database creation/deletion?

No. If needed, do so in the primary instance.

Do TencentDB for SQL Server read-only instances support account creation/deletion?

Read-only instances don't support account creation/deletion/authorization or account name/password change. If needed, do so in the primary instance.

Do TencentDB for SQL Server read-only instances support backup and rollback?

No. If needed, do so in the primary instance.

Do I need to enable load rebalancing after customizing weights in TencentDB for SQL Server?

Modifying weight will only affect new loads if rebalancing is disabled. The operation has no impact on read-only instances accessed by existing persistent connections and does not cause momentary database disconnection. If rebalancing is enabled, all connections to the database will be temporarily disconnected, and the loads of newly

added connections will be balanced according to the set weights. You can choose whether to enable load balancing again as needed.

Version and Architecture Upgrade

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Can I change a TencentDB for SQL Server instance from two-node architecture (formerly High Availability/Cluster Edition) to single-node architecture (formerly Basic Edition)?

No. To adjust the architecture, purchase a new single-node (formerly Basic Edition) instance and migrate the data as instructed in Cold Backup Migration.

Can I upgrade TencentDB for SQL Server?

TencentDB for SQL Server single-node (formerly Basic Edition) and two-node (formerly High Availability/Cluster Edition) instances support version upgrade. For more information, see Adjusting Instance Version.

Can I downgrade the TencentDB for SQL Server version ?

TencentDB for SQL Server doesn't support the version downgrade; for example, you cannot downgrade a Basic Edition instance from v2019 to v2017.

Disk Space and Specification Adjustment

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Which configuration items can I adjust in TencentDB for SQL Server?

TencentDB for SQL Server supports quick adjustment of the instance architecture, version, and specification and allows flexible scaling operations in the console. You can elastically adjust the configurations of SQL Server instances according to your actual business conditions (at the initial stage, at the rapid development stage, during peak hours, or during off-peak hours), so as to better meet your needs such as full utilization of resources and real-time cost optimization. For more information, see Overview.

Can I expand/reduce the disk space of a TencentDB for SQL Server instance?

TencentDB for SQL Server two-node (formerly high-availability/cluster edition) local disk instance: The disk space can be expanded and reduced.

TencentDB for SQL Server two-node (formerly high-availability/cluster edition) cloud disk instance: The disk space can only be expanded.

TencentDB for SQL Server single-node (formerly basic edition) instance: The disk space can only be expanded.

Can I upgrade/downgrade the CPU/memory specifications of a TencentDB for SQL Server instance?

Yes. For more information, see Adjusting Instance Specification.

Is the service still available when the specification of a TencentDB for SQL Server single-node (formerly basic edition) instance is changed?

When the configuration of a single-node (formerly basic edition) instance is adjusted (CPU/memory specification upgrade/downgrade as well as disk space expansion), the instance will be restarted and remain unavailable for about three minutes. Therefore, perform this operation during off-peak hours.

Will the service be interrupted when the specification of a TencentDB for SQL Server two-node (formerly high-availability/cluster edition) is changed?

During **specification upgrade or disk space expansion** of a two-node (formerly high-availability edition) instance, if in-place update conditions are met, the service will not experience any momentary disconnections, and the configuration will take effect immediately after the request is submitted without causing any impact on the business. If migration update conditions are met, the configuration will be upgraded by migrating data. The more the data, the longer the migration. During the migration, the instance can still be accessed. After the migration is completed, a switch will occur, causing a momentary database disconnection. Therefore, your business should have a reconnection mechanism. During the disconnection, most database, account, and network operations cannot be performed. Switch during off-peak hours.

During **disk space reduction** in a two-node (formerly high-availability/cluster edition) instance, the service will not experience any momentary disconnections. The adjustment will take effect immediately after you submit the request. There is no impact on your business.

During **specification downgrade** in a two-node (formerly high-availability/cluster edition) instance, the instance will be restarted and remain unavailable for about one minute. Therefore, perform this operation during off-peak hours. For more information on configuration adjustment scenarios and impacts, see Adjusting Instance Specification.

How do I perform disk space expansion/reduction and specification upgrade/downgrade in TencentDB for SQL Server?

Disk space expansion/reduction and specification upgrade/downgrade refer to changing the current TencentDB for SQL Server instance from specification A to specification B. In the TencentDB for SQL Server console, select the target instance and click **Adjust Configuration** in the **Operation** column. In the **Adjust Configuration** pop-up window, select the target specification and time to take effect as needed and make the payment. Then, the system will automatically change the instance specification. For more information, see Adjusting Instance Specification.

How are TencentDB for SQL Server disk space expansion/reduction and specification upgrade/downgrade fees calculated?

For a pay-as-you-go instance:

Upgrade fees: After upgrade, the instance will be billed based on the new instance specifications starting from the next billing cycle.

Downgrade fees: After downgrade, the instance will be billed based on the new instance specifications starting from the next billing cycle.

For more information, see Instance Adjustment Fees Description.

Will the read-only instance configuration be upgraded automatically when the primary instance configuration is upgraded?

Read-only instances can only be upgraded manually.

Monitoring and Alarms

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How do I view the monitoring data of a TencentDB for SQL Server instance?

TencentDB for SQL Server supports 38 common metrics of SQL Server. For more information, see Monitoring Metrics. You can also collect statistics of other metrics by configuring the counters of SSMS.
You can view and stay up to date with instance conditions on monitoring charts as instructed in Viewing Monitoring Charts. You can also set alarm policies, configure alarm notifications, and view alarm records in Tencent Cloud Observability Platform (TCOP) for 38 monitoring metrics about CPU, memory, storage, network, connection, access, and lock. For example, you can configure alarms in **Alarm Management** > **Policy Management** > **Create Policy** in the TCOP console.

Where can I view monitoring charts in TencentDB for SQL Server?

We provide a wide variety of performance monitoring metrics and convenient monitoring features (such as custom view, time comparison, and merged monitoring metrics). You can view and stay up to date with instance conditions by going to the **System Monitoring** page in the TencentDB for SQL Server console, as instructed in Viewing Monitoring Charts.

What monitoring metrics are supported by TencentDB for SQL Server?

TencentDB for SQL Server supports 38 common metrics of SQL Server. For more information, see Monitoring Metrics. You can also collect statistics of other metrics by configuring the counters of SSMS.

How do I set an alarm policy for TencentDB for SQL Server?

You can create an alarm policy in the TCOP console. An alarm will be triggered and notifications will be sent if the status of a monitoring metric of TencentDB for SQL Server becomes abnormal. For more information, see Setting Alarm Policies.

How do I associate an alarm policy with an alarm object in TencentDB for SQL Server?

You can create an alarm policy in the TCOP console and associate it with an alarm object. If the object meets the alarm trigger condition, an alarm will be triggered. For more information, see Setting Alarm Policies.

How do I set alarm notifications for TencentDB for SQL Server?

After creating an alarm policy, you can configure an alarm notification template and alarm notifications in the TCOP console. After the configuration is completed, if an alarm is triggered by an exception, the system will send notifications to the recipients via the specified channels (email, SMS, and phone call). For more information, see Setting Alarm Notification.

How do I view alarm records in TencentDB for SQL Server?

You can view detailed alarm records in the console and quickly locate specific problems through alarm messages for further troubleshooting. For more information, see Viewing Alarm Records.

What is the minimum monitoring granularity in TencentDB for SQL Server?

The minimum monitoring granularity in TencentDB for SQL Server is 10 seconds, and the time range automatically changes with the granularity.

Which monitoring metrics of a TencentDB for SQL Server instance should I stay up to date with?

You need to pay attention to the following monitoring metrics: CPU utilization, memory utilization, and percentage of remaining disk space. You can configure alarm notifications based on your actual business scenario, so that alarms will be triggered and notifications will be sent if the status of a monitoring metric of TencentDB for SQL Server becomes abnormal. When receiving an alarm, you can take applicable measures to resolve it. For more information, see Setting Alarm Policies.

Sample configuration: If the CPU utilization reaches a certain value (such as 80%) for multiple times (such as five times) within a certain period of time (such as five minutes), an alarm will be triggered (once an hour, for example).

Log

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What is the slow query collection threshold in TencentDB for SQL Server?

The default slow query collection threshold in TencentDB for SQL Server is one second. SQL statements whose execution duration exceeds one second will be recorded into slow logs.

Can I modify the slow query collection threshold in TencentDB for SQL Server?

The default slow query collection threshold in TencentDB for SQL Server is one second, which cannot be modified in the console. To modify it, submit a ticket for assistance. The threshold modification won't affect your business.

Do slow query logs in TencentDB for SQL Server use my storage space?

No.

Can I view the slow SQL table in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, click the target instance ID in the instance list. On the slow query log page, query and download slow query logs as instructed in Querying and Downloading Slow Query Log. The slow SQL table of TencentDB for SQL Server is not displayed by default. You can view it after connecting to the instance through SSMS. If you don't have relevant permissions, submit a ticket for escalating your database account permissions.

How do I analyze slow SQL queries in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console and click the ID of the target instance to enter the slow query log page. For more information, see Querying and Downloading Slow Query Log. Download slow logs from the console. The downloaded file is in .xel format. You can open the .xel file in SSMS to view specific slow SQL queries. To optimize slow queries, you can copy them, enable the execution plan feature to view their specific execution plans, and optimize them accordingly. For more information, see Display an Actual Execution Plan.

Will transaction logs in TencentDB for SQL Server be automatically cleared?

TencentDB for SQL Server transaction logs will be cleared automatically once every 30 minutes.

## Can I view audit logs in TencentDB for SQL Server?

No.

Can I view error logs in TencentDB for SQL Server?

Currently, you cannot view error logs in the TencentDB for SQL Server console. However, you can directly view instance logs in SSMS.

How do I get the error logs of TencentDB for SQL Server through commands?

Log in to the SQL Server client and run the following query statement in the query box to query error logs:
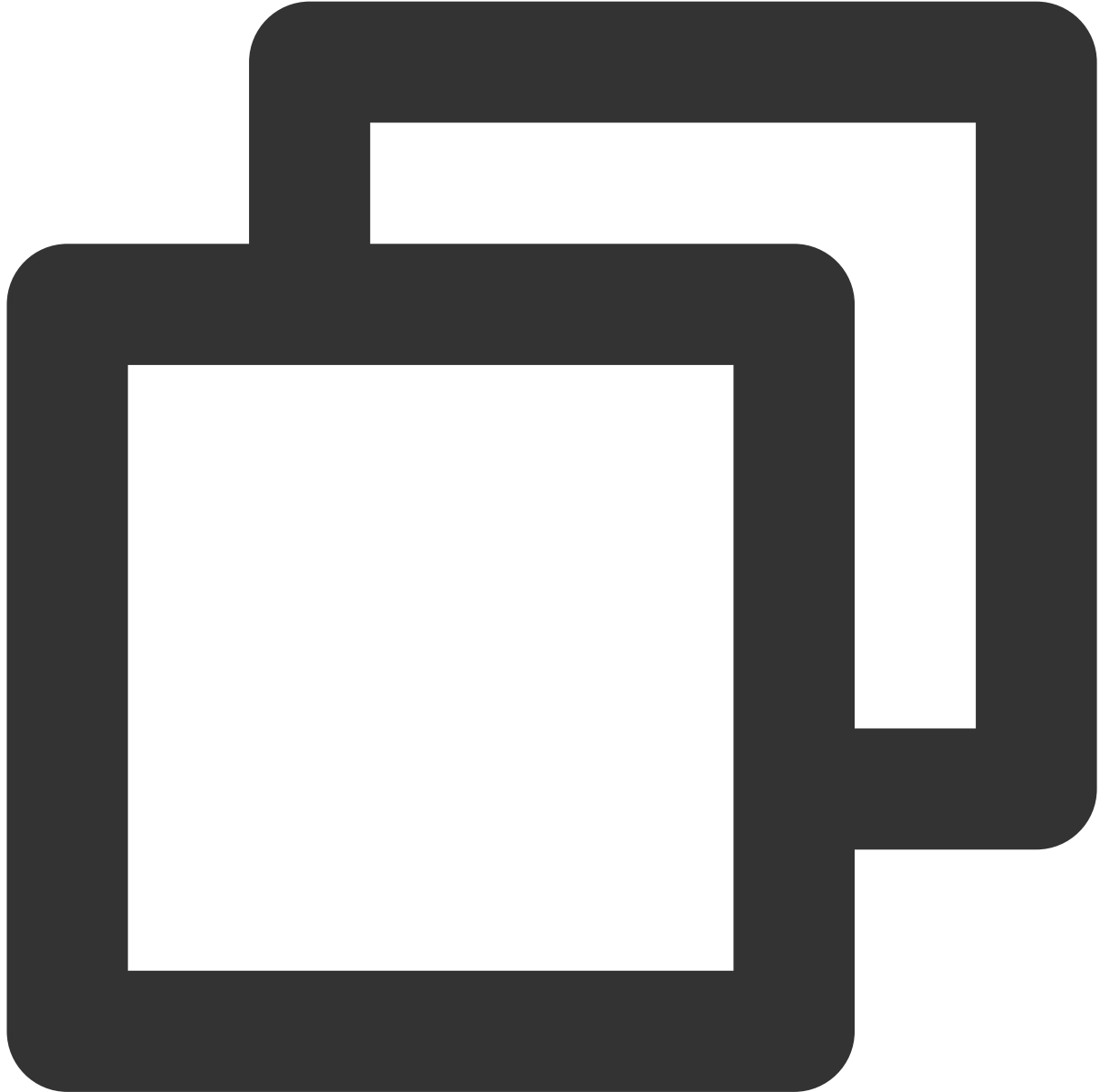

```
Exec master.sys.sp_readerrorlog FileID,LogType,FilterText
```

FileID: File ID of the error log. `0` indicates the latest log.

LogType: Log type. Valid values: 1 (error logs); 2 (agent logs).

FilterText: Query keyword, which can be `NULL`.

Sample:

```
exec master.sys.sp_readerrorlog 0,1,'error'
```

Parameter Modification

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How do I modify the time zone in TencentDB for SQL Server?

As TencentDB for SQL Server uses the China Standard Time by default and **modifying the system time zone requires separately configuring physical machine resources**, submit a ticket and specify the desired system time zone before you purchase an instance. For more information, see Modifying System Time Zone.

How do I modify a character set collation in TencentDB for SQL Server?

TencentDB for SQL Server provides character set collations at instance and database levels.
The character set collation for instances is `Chinese_PRC_CI_AS` by default. To modify it, submit a ticket and specify the target character set to be modified. For more information, see Modifying Instance-Level Character Set Collation.
The character set collation for databases can be specified during database creation. For more information, see Creating Database. If it is not specified, `Chinese_PRC_CI_AS` will be used by default.

How do I modify the configuration parameters of TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, click the ID of the target instance in the instance list, select **Parameter Configuration** > *Parameter Settings*, and modify instance parameters. For more information, see Setting Instance Parameters.

Which parameters can I modify quickly in the TencentDB for SQL Server console?

Log in to the TencentDB for SQL Server console, click the ID of the target instance in the instance list, select **Parameter Configuration** > *Parameter Settings*, and you can modify the following instance parameters:
fill factor(%)
max worker threads
cost threshold for parallelism
max degree of parallelism
optimize for ad hoc workloads
min server memory (MB)
blocked process threshold (s)

How do I view parameter modification logs in TencentDB for SQL Server?

Log in to the TencentDB for SQL Server console, click the ID of the target instance in the instance list, select **Parameter Configuration** > **Modification Log**, and view parameter modification logs. For more information, see Viewing Parameter Modification Log.

Features

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Does TencentDB for SQL Server support manual primary-replica switchover?

TencentDB for SQL Server two-node cloud disk architecture supports manual primary-replica switchover. For specific operations, please refer to Manual Primary-Replica Switchover. The two-node local disk architecture does not support initiating manual primary-replica switchover from the console. If you need to perform manual primary-replica switchover, please submit a ticket for assistance.

Can TencentDB for SQL Server currently access other heterogeneous databases?

Currently, TencentDB for SQL Server doesn't support accessing other heterogeneous databases from a cloud SQL Server.

Does TencentDB for SQL Server support BULK INSERT and other data import methods?

TencentDB for SQL Server currently does not support BULK INSERT and other data import methods.

Does TencentDB for SQL Server support MSDTC?

TencentDB for SQL Server does not support MSDTC.

What is the encryption method for TencentDB for SQL Server?

TencentDB for SQL Server supports SQL Server's native encryption key method. Users can create database-level encryption keys themselves.

Can TencentDB for SQL Server scan the security system vulnerabilities of its servers on its own?

TencentDB for SQL Server currently does not support self-scanning for security system vulnerabilities on its servers.

Can TencentDB for SQL Server use a maintenance plan?

TencentDB for SQL Server currently does not support using a maintenance plan. A maintenance plan generates additional packages and JOBs. You can execute this process by directly creating JOBs to execute SQL statements.

Can TencentDB for SQL Server create folders on the server?

TencentDB for SQL Server does not support creating folders on the database server.

How to enable or disable Change Data Capture (CDC) in TencentDB for SQL Server?

Change Data Capture (CDC) is used to capture insertions, updates, and deletions applied to SQL Server tables and provide details of these changes in a convenient relational format. To enable or disable CDC, see Change Data

Capture CDC.

How to enable or disable Change Tracking (CT) in TencentDB for SQL Server?

Change Tracking (CT) can be applied to track a specific table or even a specific column in a database. When additions, modifications, or deletions are performed on a table with CT enabled, the system automatically generates a version number for the operation, recording the operation timestamp, operation type, and the primary key of the affected data. To enable or disable CT, see Change Tracking (CT).

How to shrink the database in TencentDB for SQL Server?

You can shrink the database directly through the console. For details, see Shrinking Databases.

How many databases can a single instance of TencentDB for SQL Server create?

From a performance perspective, having too many databases on TencentDB for SQL Server can lead to performance degradation, consuming resources such as worker threads. Exceeding the database creation limit can result in primary-replica synchronization exceptions. It is recommended to keep the number of databases in a single instance below the maximum limit, which is related to the number of CPU cores of the instance. For detailed formulas on the maximum number of databases for each version, see Number of Databases.

Is there a limit on the number of tables for a single instance of TencentDB for SQL Server?

Theoretically, there is no limit on the number of tables for a single instance of TencentDB for SQL Server. However, if the number of tables exceeds 1 million, it may affect database performance. Please regulate the number of tables to ensure it does not exceed 1 million per instance.

Where are the databases created on TencentDB for SQL Server stored?

Log in to the SQL Server SSMS client. After connecting to the instance, right-click Database Properties to view the database file location.

Does TencentDB for SQL Server support reporting services?

TencentDB for SQL Server currently does not support reporting services. If needed, you can use Tencent Cloud's <1>Business Intelligence (BI) product<1> to implement reporting services.

What are the constraints and limitations on the use of features in TencentDB for SQL Server?

To ensure the stability and security of instances, TencentDB for SQL Server imposes some usage constraints. For details, please refer to Constraints and Limitations.

Performance/Space/Memory

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How long does it take to create a TencentDB for SQL Server instance?

Normally, it takes around 20 minutes or 3 minutes to create a Basic Edition instance or a Dual-Server High Availability/Cluster Edition instance respectively. The time it takes to create a read-only instance is subject to the data volume in the primary instance. The greater the data volume, the longer the time. If the primary instance is empty, it takes around 3 minutes to create a read-only instance. If the actual time is longer, there may be a problem during creation. In this case, submit a ticket for assistance.

How many databases can I create at most in a TencentDB for SQL Server instance?

For performance considerations, we recommend you create databases in a TencentDB for SQL Server instance within the following limits:

Basic Edition: The number of databases that can be created is unlimited theoretically, but we recommend you keep it below 100.

Dual-Server High Availability/Cluster Edition: The number of databases that can be created is limited in the console. We recommend you keep it below 70.

You can also use SSMS to connect to the instance and create databases, and databases created via SSMS will be automatically synced to the replica instance. However, to avoid exceptions during primary-replica sync, we recommend you not create more databases than the limit. If you have any questions or special needs, submit a ticket for assistance.

Does TencentDB for SQL Server limit the IOPS?

TencentDB for SQL Server has no strict limits on the IOPS metric. Theoretically, as long as the CPU and memory are not restricted and the instance is not locked or blocked, the IOPS can be unlimited.

Why does a TencentDB for SQL Server instance have a "monitor" database?

The "monitor" database comes with the system and is used to collect monitoring information of databases in the instance. It doesn't compromise the database performance or use your storage space.

## How does TencentDB for SQL Server track deadlocks?

TencentDB for SQL Server can use SQL Server Profiler to track deadlocks. To enable it, open SSMS, select **Tools** > **SQL Server Profiler**, and connect to the database. Note that enabling the profiler for tracking slightly affects the performance and uses a certain amount of space; therefore, disable it in time after using it.

How do I view the memory usage of a TencentDB for SQL Server instance?

You can view various memory monitoring metrics, including maximum memory, memory usage, and memory utilization, in **Memory** on the **System Monitoring** page of your instance in the TencentDB for SQL Server console.

How do I view the memory usage of each database in a TencentDB for SQL Server instance?

You can use a client to connect to the instance as instructed in Connecting to TencentDB for SQL Server Instance from Windows CVM Instance and Connecting to TencentDB for SQL Server Instance from Local Computer. Then, you can run the following SQL statements (for reference only) to view the memory usage of each database in the instance:
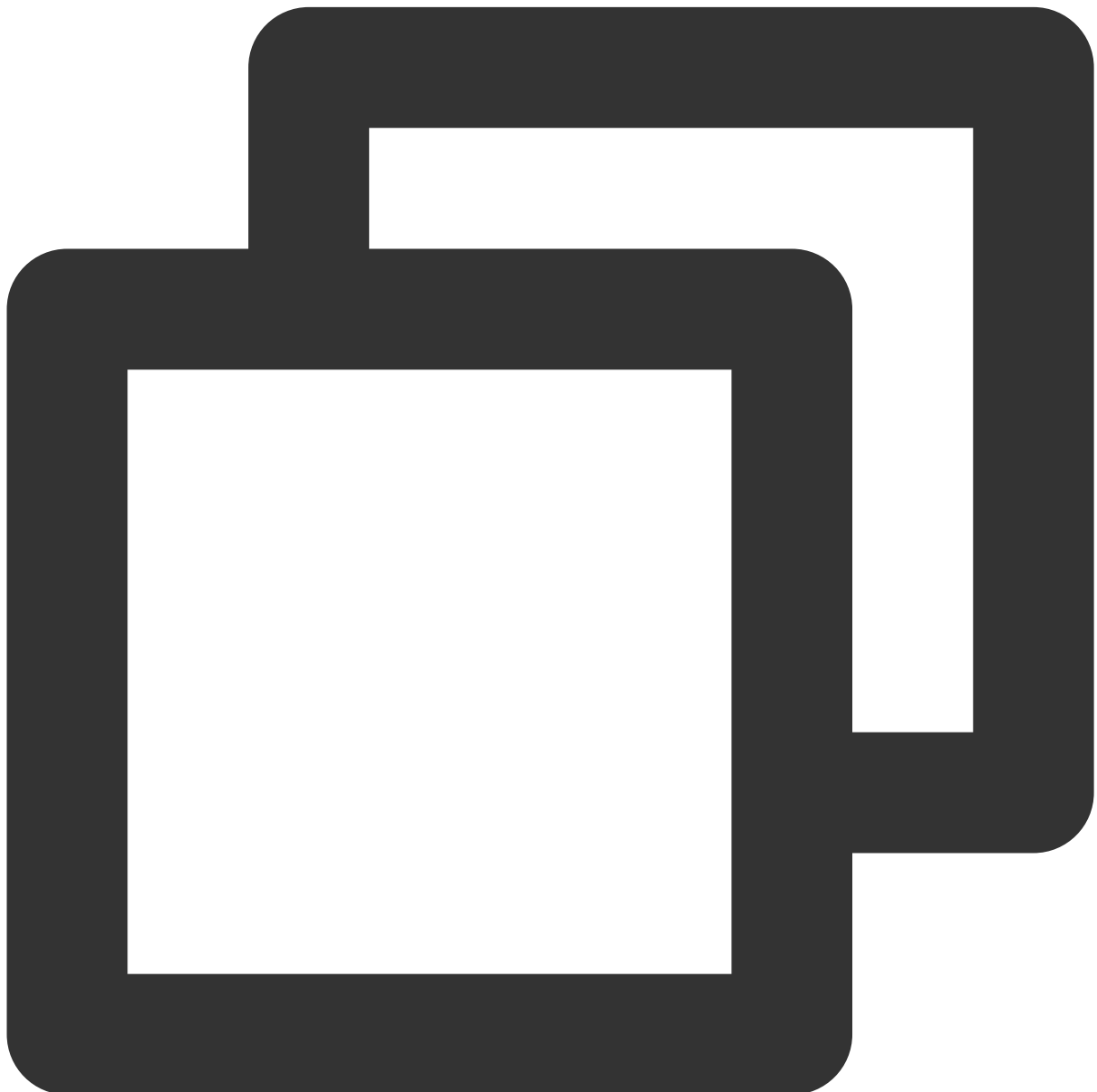

```
select count(*)*8/1024 as 'cache size(MB)',
       case database_id
```

```
        when 32767 then 'ResourceDb'
        else DB_NAME(database_id)
    end as 'datebase'
from sys.dm_os_buffer_descriptors
group by DB_NAME(database_id),
        database_id
order by 'cache size(MB)' desc
```

What should I do if the memory usage metric value stays high in TencentDB for SQL Server?

The memory mechanisms of TencentDB for SQL Server is the same as that of Microsoft SQL Server. The displayed memory usage of the SQL Server process is the highest memory usage of the instance, which will not be automatically released. SQL Server will perform internal interactions automatically. To release the memory, you need to restart the instance.

For example, 16 GB memory is allocated to an instance. When the instance just starts to be used, it may use only 8 GB memory, and the SQL Server process will occupy 8 GB memory. When the instance uses 16 GB memory, the SQL Server process will occupy all of the allocated 16 GB memory and perform internal interactions to replace the old cached data with new cached data. However, that the process occupies 16 GB memory doesn't mean that the instance actually uses 16 GB memory. In fact, it is possible that the instance only uses 1 GB memory.

How do I view the storage space usage of a TencentDB for SQL Server instance?

You can view the **used storage space** and **percentage of remaining disk space** in **Storage** on the **System Monitoring** page of your instance in the TencentDB for SQL Server console.

After a SQL Server database is created, no or only a small amount of data is written, but why does the storage space monitor show that 500 MB of space has been used?

A TencentDB for SQL Server instance automatically allocates a 500 MB initial space to each database. When data is written, it will be written to the initial space first. Therefore, even if you write no or only a very small amount of data, the storage metric will still be displayed as 500 MB.

Why doesn't the storage space usage decrease after data is deleted from a TencentDB for SQL Server instance?

After data is deleted from a TencentDB for SQL Server instance, the extended data files won't be shrunk, and the free space inside the files can support subsequent operations such as insertion and update.

For example, in a 50 GB instance, if 50 GB data is written to a database and then deleted, the value of the storage space usage metric will be 50 GB, but you can still write a large number of files.

What will happen after the data volume exceeds the maximum storage space of a TencentDB for SQL Server instance?

Dual-Server High Availability/Cluster Edition instance: When the size of the data stored in the instance exceeds its disk capacity, features such as database import and rollback will become unavailable. You will need to expand its capacity or delete some database tables in the console to release the storage space.

Basic Edition Instance: When the size of the data stored in the instance exceeds its disk capacity, the database will become read-only. You will need to expand its capacity or delete some database tables in the console to release the storage space and make it writable.

Why does disk overuse happen in a TencentDB for SQL Server instance?

The following may cause disk overuse:

Too much data: As businesses expand, new data is constantly inserted, resulting in data file space growth.

Too many logs: The TencentDB database backs up and truncates log files regularly. If transactions are not committed for a long time, and there are a high number of UPDATE, INSERT, and DELETE operations in the database, the transaction log file may become too large.

What should I do if the data volume exceeds the maximum storage space of my TencentDB for SQL Server instance?

If the data file space usage is excessive, you need to expand the database or delete some tables in the console to free up the storage space. After deleting data, you can shrink the database in the console. We recommend you do so during off-peak hours. For more information, see Adjusting Instance Specification, Deleting Database, or Shrinking Database.

If the log file is too large, there may be some transactions not ended for a long time. You can monitor and clear sessions or transactions with a long execution time.

Can I directly expand the storage space of a TencentDB for SQL Server instance? Do I need to perform data migration? What is the impact of the expansion?

The storage space can be expanded directly. If the storage space of the physical machine where the instance is deployed is sufficient, the data doesn't need to be migrated, and the expansion won't affect the business; otherwise, the system will automatically create primary and replica instances on physical machines with a sufficient storage space and sync the data from the original instance. During the data sync, the instance access will not be interrupted. After the migration is completed, a momentary database disconnection will occur during instance switch.

For more information on how to expand the storage space and whether the expansion will cause a momentary disconnection, see Adjusting Instance Specification.

Can I reduce the disk space of a TencentDB for SQL Server instance?

TencentDB for SQL Server Dual-Server High Availability/Cluster Edition instance: The disk space can be reduced.
TencentDB for SQL Server Basic Edition instance: The disk space cannot be reduced.

## What does the disk space of a TencentDB for SQL Server instance consist of?

1. Data file space: It is the space used by your data. The data file space of TencentDB for SQL Server is preallocated. Therefore, each created database takes up nearly 500 MB to store your data.

2. Transaction log file space: Each database in a TencentDB for SQL Server instance has a log file. In full recovery model, database transaction logs will be written to the log file.

3. Temporary database and table files: Files used by `tempdb` of the TencentDB for SQL Server instance and temporary table files generated by complex queries.

How much disk space is required for DDL operations?

To ensure normal business operations, you should avoid performing operations that may cause disk space usage surges, such as Data Definition Language (DDL) operations. If you must execute a DDL operation, make sure that the available disk space is greater than or equal to twice the size of the tablespace plus 10 GB. For example, if your tablespace is 500 GB, then when performing a DDL operation, make sure that the available disk space is greater than or equal to 500 * 2 + 10 = 1010 GB.

How do I view the data file size of a business database in a TencentDB for SQL Server instance?

Log in to the SQL Server client and connect to the instance as instructed in Connecting to TencentDB for SQL Server Instance from Windows CVM Instance and Connecting to TencentDB for SQL Server Instance from Local Computer. Then, in the query box, run the following SQL query statements (for reference only) to view the data file size of the target business database.
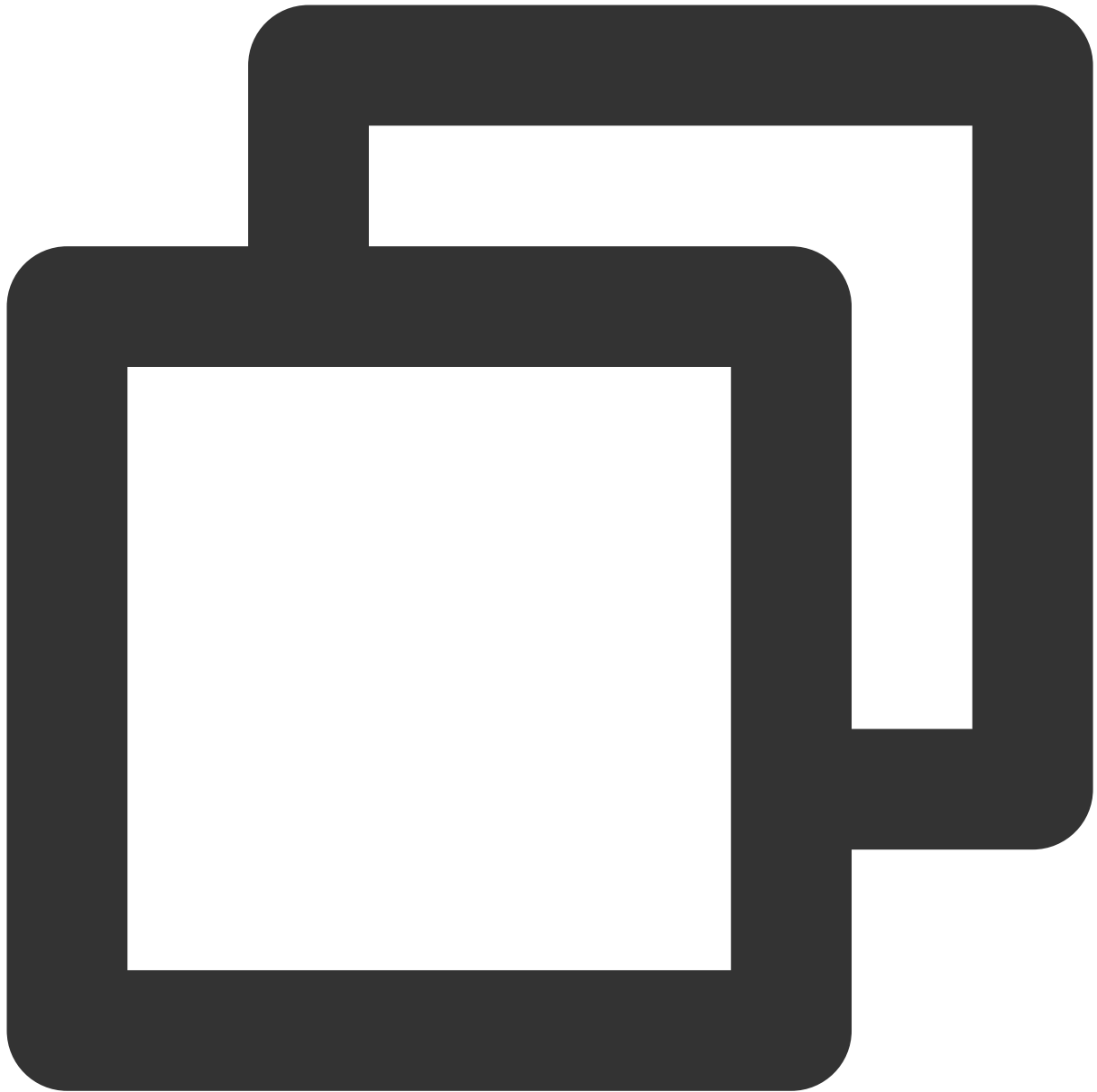
```
CREATE TABLE #DBspace(
    [DBname] [sysname] NOT NULL,
    [DBsize] [decimal](18, 2) NULL,
    [DataFileSize] [decimal](18, 2) NULL,
    [LogFileSize] [decimal](18, 2) NULL,
    [UnallocatedSize] [decimal](18, 2) NULL,
    [ReservedSize] [decimal](18, 2) NULL,
    [DataSize] [decimal](18, 2) NULL,
    [IndexSize] [decimal](18, 2) NULL,
    [UnusedSiz] [decimal](18, 2) NULL,
    [AcquisitionTime] [datetime] NULL )
```

```
    EXEC master.sys.sp_MSforeachdb  @command1='use [?] ', @command2=N'
       use [?];
    DECLARE @pages FLOAT
    DECLARE @dbsize FLOAT
    DECLARE @logsize FLOAT
    DECLARE @reservedpages FLOAT
    DECLARE @usedpages FLOAT
    SELECT @dbsize = SUM(CONVERT(BIGINT, CASE WHEN status & 64 = 0 THEN size ELSE
    FROM   dbo.sysfiles
    SELECT @reservedpages = SUM(a.total_pages) ,
           @usedpages = SUM(a.used_pages) ,
           @pages = SUM(CASE WHEN it.internal_type IN ( 202, 204, 207, 211,212, 21
    FROM   sys.partitions p
           JOIN sys.allocation_units a ON p.partition_id = a.container_id
           LEFT JOIN sys.internal_tables it ON p.object_id = it.object_id
    INSERT INTO #DBspace
           select  ''?'' ,
                   (( CONVERT (dec(15, 2), @dbsize)+ CONVERT (dec(15, 2), @logsize
                   (( CONVERT (dec(15, 2), @dbsize) ) * 8192 / 1048576 ),
                   (( CONVERT (dec(15, 2), @logsize) ) * 8192 / 1048576 ),
                   ( (CASE WHEN @dbsize >= @reservedpages THEN ( CONVERT (dec(15,
                   (( CONVERT (dec(15, 2), @reservedpages) ) * 8192 / 1048576 ),
                   (( CONVERT (dec(15, 2), @pages) ) * 8192 / 1048576) ,
                   (( CONVERT (dec(15, 2), @usedpages − @pages) ) * 8192/ 1048576)
                   (( CONVERT (dec(15, 2), @reservedpages − @usedpages) )* 8192 /
                   (GETDATE()) '
 SELECT * FROM #DBspace ORDER BY UnallocatedSize DESC
 DROP TABLE #DBspace
```

How do I view the log file size and status of a business database in a TencentDB for SQL Server instance?

Log in to the SQL Server client and connect to the instance as instructed in Connecting to TencentDB for SQL Server Instance from Windows CVM Instance and Connecting to TencentDB for SQL Server Instance from Local Computer. Then, in the query box, run the following SQL query statements (for reference only) to view the log file size and status of the target business database.
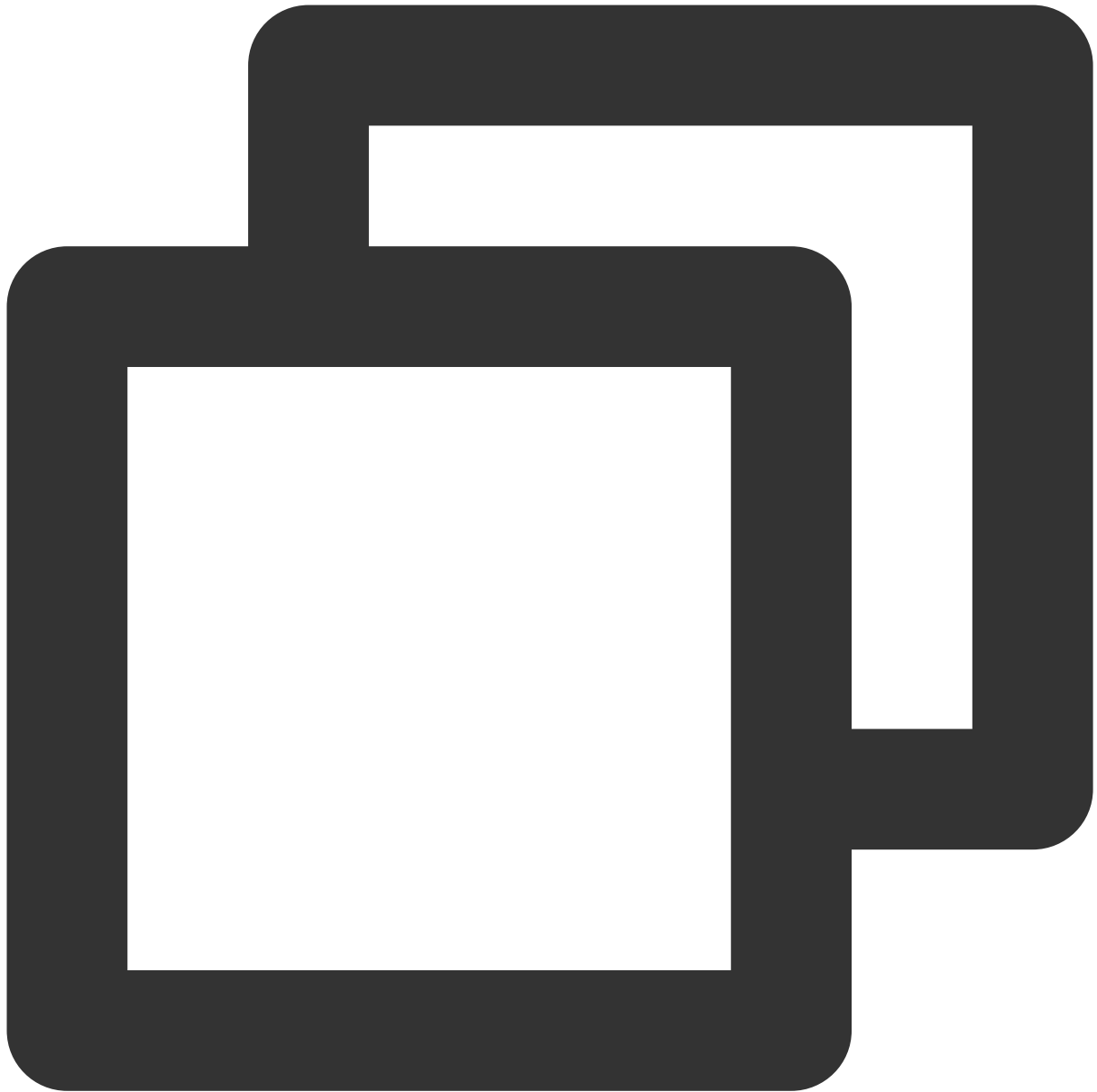
```
create table #T
(
    [dbname] [nvarchar](100) NULL,
    [logsize] [decimal](30, 2) NULL,
    [logused] [decimal](30, 2) NULL,
    [status] [int] NULL
)
INSERT INTO #T([dbname],[logsize],[logused],[status])
EXECUTE('dbcc sqlperf(logspace)')
select a.*,b.log_reuse_wait_desc from #T a inner join master.sys.databases b
on a.dbname = b.name order by a.logsize desc
```

```
drop table #T
```

How do I view the table size in a database in a TencentDB for SQL Server instance?

Log in to the SQL Server client and connect to the instance as instructed in Connecting to TencentDB for SQL Server Instance from Windows CVM Instance and Connecting to TencentDB for SQL Server Instance from Local Computer. Then, in the query box, run the following SQL query statements (for reference only) to view the size of each table in the target database.
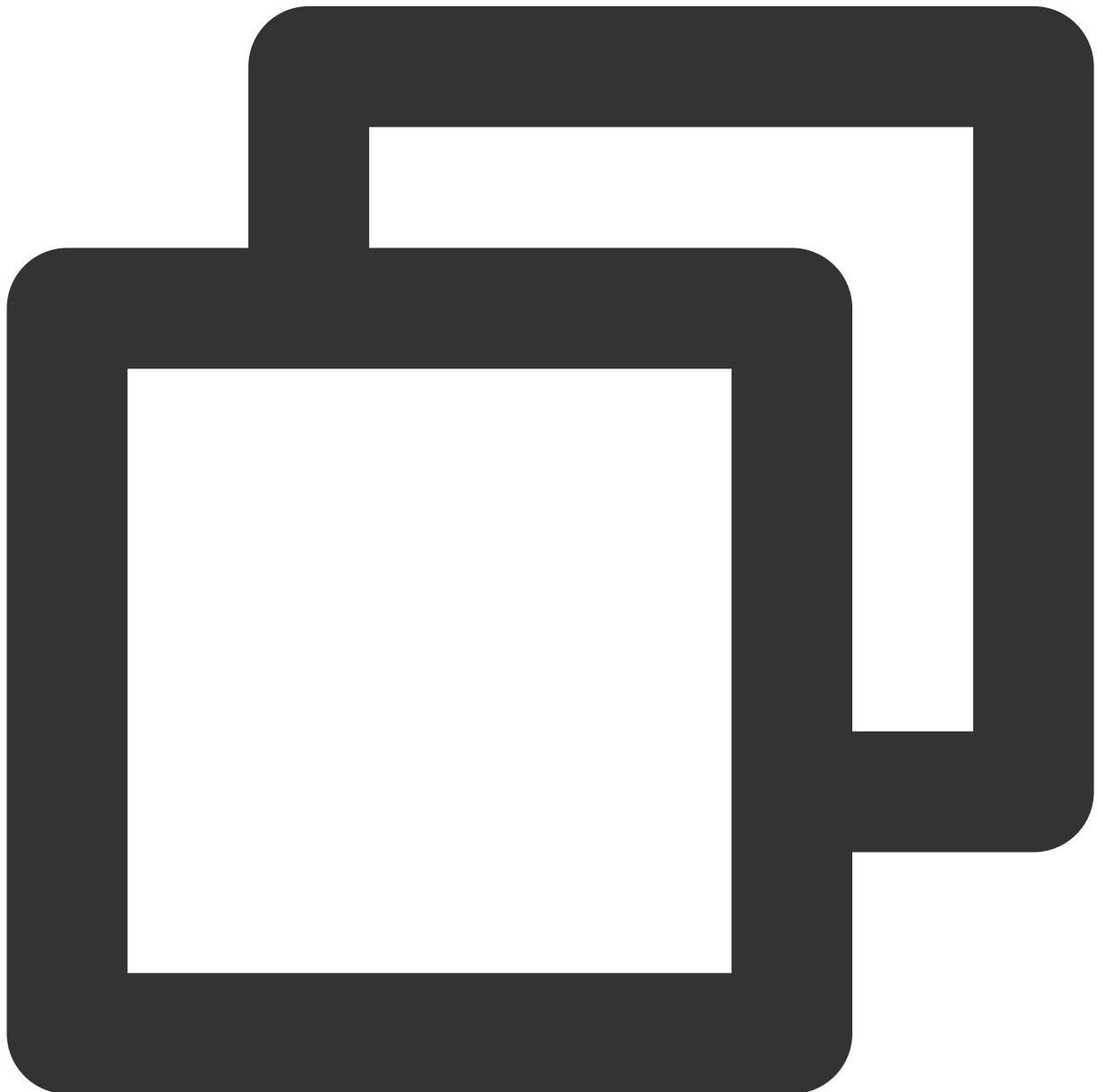

```
USE [DBname]
```

```
GO
CREATE TABLE #Tablespace(
    [TableName] [nvarchar](100) NOT NULL,
    [Rows] [nvarchar](100) NULL,
    [ReservedSize] [nvarchar](100) NULL,
    [DataSize] [nvarchar](100) NULL,
    [IndexSize] [nvarchar](100) NULL,
    [UnusedSiz] [nvarchar](100) NULL )
INSERT INTO #Tablespace EXEC sp_msforeachtable 'sp_spaceused ''?'''
SELECT * FROM #Tablespace
order by convert(int,replace(DataSize,'KB','')) desc,2 desc
DROP TABLE #Tablespace
```

How does TencentDB for SQL Server repossess the tablespace?

A TencentDB for SQL Server instance can shrink all database files to free up the unused space. For more information, see Shrinking Database.

How do I avoid data disk space usage surges caused by massive amounts of data pushed to a TencentDB for SQL Server instance within a short time?

In Dual-Server High Availability/Cluster Edition primary/replica instances, if massive amounts of data is pushed, the instances may fail to be synced promptly. In this case, logs cannot be truncated and shrunk, eventually leading to data disk space usage surges. We recommend you stop for a while accordingly when pushing data, wait for the data to be fully synced, and then continue to push the next batch of data.

How do I solve the problem of slow queries in TencentDB for SQL Server?

You can solve this problem in the following ways:

1. View slow SQL logs to check whether there are slow SQL queries and analyze the performance characteristics of each query, and locate the cause of slow queries accordingly. Then, log in to the TencentDB for SQL Server console, click the target instance ID in the instance list, and query and download slow query logs on the slow query log page. You can also query the DMV view to locate the cause of slow queries in TencentDB for SQL Server.

2. View the CPU utilization metric to locate the problem. For more information, see Monitoring Metrics.

3. Create a read-only instance dedicated for query to reduce the load of the primary instance and mitigate the database pressure.

4. Add an index to the joined field in multi-table correlated subqueries.

5. Avoid using the `select*` statement to scan the full table; instead, specify the field or add a `where` condition.

How do I troubleshoot the problem of a high CPU utilization in a TencentDB for SQL Server instance?

The instance CPU utilization may increase for the following reasons:

1. The business SQL statements are unreasonable, as they have a lot of I/O reads and logical operations, such as compilations, recompilations, sorting, aggregations, and table joins.

Symptom: There are slow queries, the curves of changes in the QPS and CPU utilization don't match, and there are statements with a high I/O among CPU-consuming statements.

Troubleshooting method and solution: Use the following query statements (or monitoring records in the event monitor) together with the slow queries to locate the slow SQL statements and analyze them for optimization. (We recommend you create an index in a table and use it in statements as much as possible. Use SSMS to analyze the actual execution plans of the statements. Then, use optimization suggestions provided by execution plan analysis to optimize the statements based on the specific business conditions.)
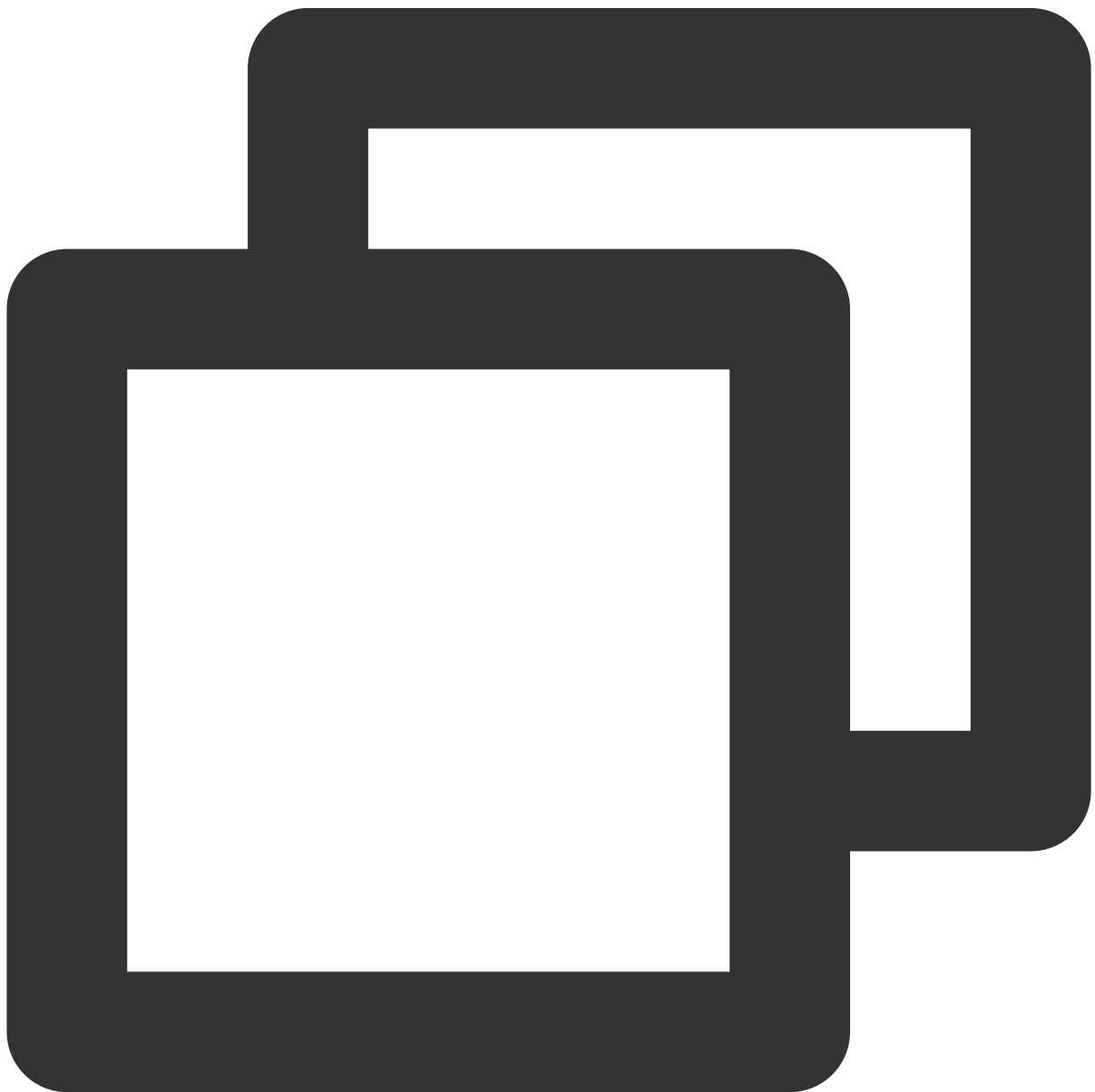
```
-- Query the CPU usage by real-time sessions:
SELECT C.text,DB_NAME(A.dbid) dbname,A.loginame,A.* FROM sys.sysprocesses A
CROSS APPLY sys.dm_exec_sql_text(A.sql_handle) C
where status in ('runnable','suspended')
order by cpu desc
-- Query the CPU usage by top 20 session SQL statements:
SELECT TOP 20
 total_worker_time/1000 AS [total CPU time (ms)],execution_count [number of executi
 qs.total_worker_time/qs.execution_count/1000 AS [average CPU time (ms)],
 last_execution_time AS [last execution time],min_worker_time /1000 AS [minimum exe
 max_worker_time /1000 AS [maximum execution time (ms)],
 SUBSTRING(qt.text,qs.statement_start_offset/2+1,
     (CASE WHEN qs.statement_end_offset = -1
     THEN DATALENGTH(qt.text)
     ELSE qs.statement_end_offset END -qs.statement_start_offset)/2 + 1)
 AS [statement using CPU], qt.text [complete syntax],
 qt.dbid, dbname=db_name(qt.dbid),
 qt.objectid,object_name(qt.objectid,qt.dbid) ObjectName
FROM sys.dm_exec_query_stats qs WITH(nolock)
CROSS apply sys.dm_exec_sql_text(qs.sql_handle) AS qt
WHERE  execution_count>1
--ORDER BY (qs.total_worker_time/qs.execution_count/1000) DESC -- (top 20 SQL state
--ORDER BY  total_worker_time DESC -- (top SQL statement with the longest total CPU
```

2. The set instance parallelism is unreasonable.

Symptom: When the current sessions of the instance are queried, it is found that a large number of identical sessions are blocked, and the wait type is CXPACKET.

Description: CXPACKET indicates that threads are waiting to be processed in parallel. Generally, the CXPACKET wait type is normal for SQL Server. It instructs SQL Server to use a parallel plan when executing queries. Such queries are usually faster than those executed serially. When the parallel plan is used, a query will be executed in multiple threads, and the query can continue only after all parallel threads are completed. This means that the query execution time will be determined by the slowest thread. However, if there are excessive parallel simple queries, or data packets of complex queries processed by parallel threads are uneven, CXPACKET wait will occur as an unreasonable parallel execution plan is generated or multiple threads wait for a slow thread to be completed.

Troubleshooting method and solution:
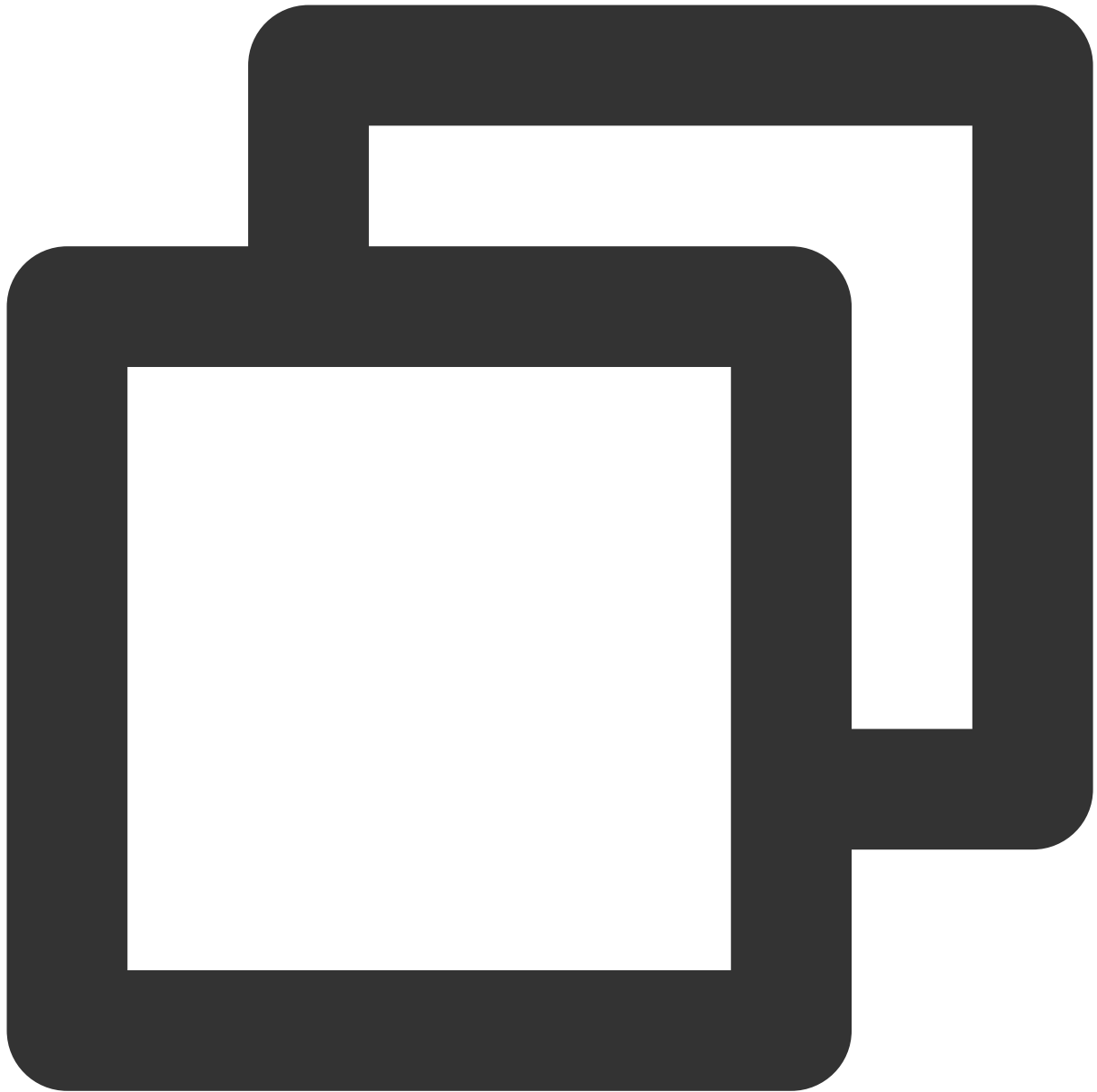
```
SELECT C.text,DB_NAME(A.dbid) dbname,A.loginame,A. wait_type,A.* FROM sys.sysproces
CROSS APPLY sys.dm_exec_sql_text(A.sql_handle) C
where spid in (select SPID from sys.sysprocesses where blocked <> 0 )
```

Configure at the statement level. Find statements with a high CPU utilization via real-time query or slow log analysis and specify `OPTION ( MAXDOP 1 )` to disable parallel processing.

Example: `SELECT * FROM TABLE WHERE L1='******' OPTION ( MAXDOP 1 )`

Configure at the instance level. Query the `MAXDOP` value of the current instance:

```
select * from sys.configurations where name like '%max%';
```

Modification method: You can modify in **Parameter Configuration** in the console:

3. The business concurrency is high, increasing the instance load.

Symptom: It can be clearly seen from monitoring data that the number of requests, number of connections, and CPU utilization of the instance change in line with each other.

Solution: This problem is caused by a high number of requests. You can optimize the business logic to reduce the time of each request or upgrade the instance specification.

How do I view current connections and executed SQL statements in TencentDB for SQL Server?

Log in to the SQL Server client and connect to the instance as instructed in Connecting to TencentDB for SQL Server Instance from Windows CVM Instance and Connecting to TencentDB for SQL Server Instance from Local Computer.

1. Use the `sys.sysprocesses` and `sys.dm_exec_sql_text` views to query the current connections and executed SQL statements.
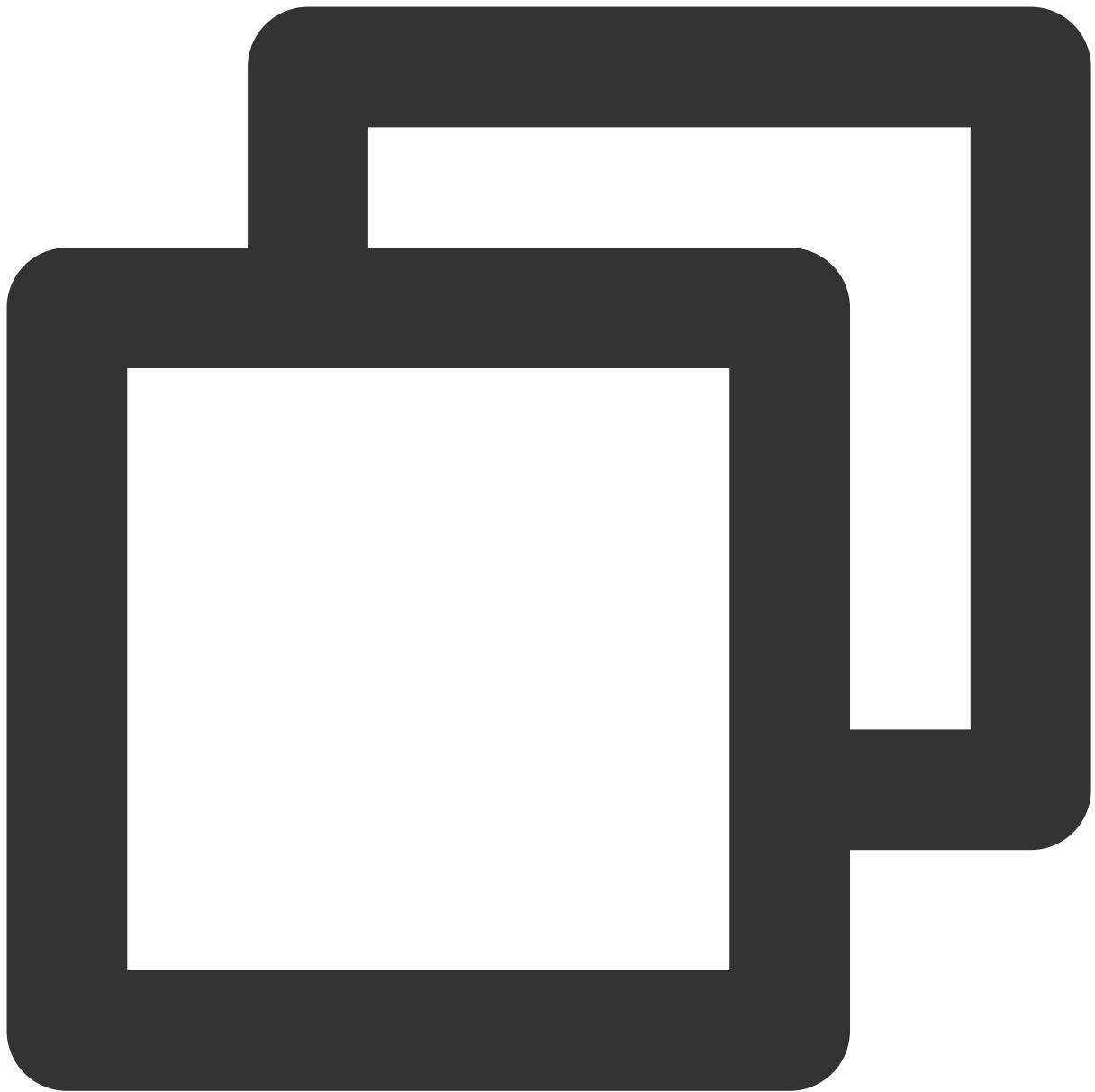
```
SELECT C.text,DB_NAME(A.dbid) dbname,A.* FROM sys.sysprocesses A
CROSS APPLY sys.dm_exec_sql_text(A.sql_handle) C
--where spid =
```

2. Use `sys.sysprocesses` to query all current connections.
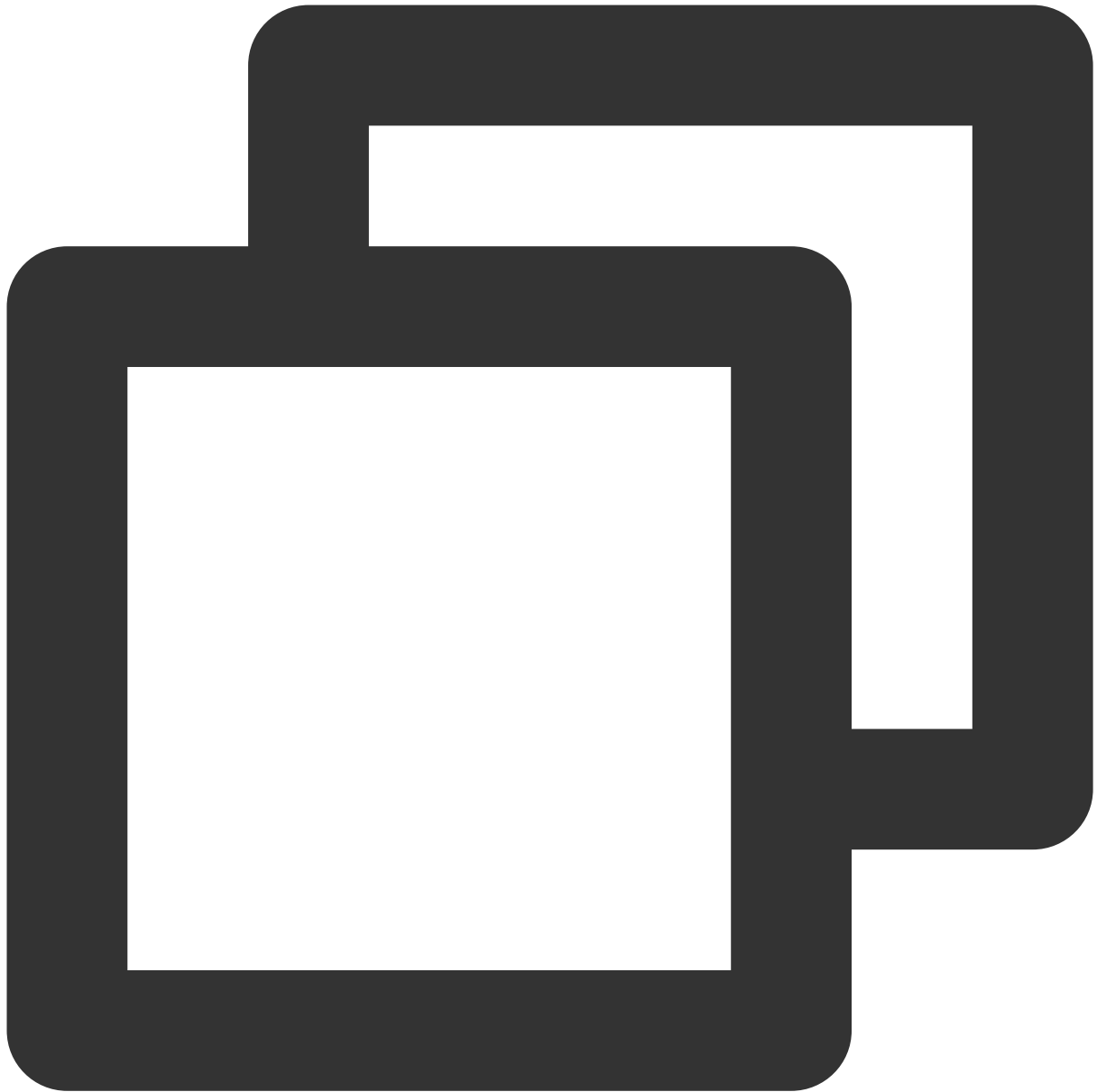
```
DBCC INPUTBUFFER(spid)
SELECT * FROM sys.sysprocesses;
```

Then, use DBCC or `sys.dm_exec_input_buffer` to query the specific SQL statements of connections.

```
DBCC INPUTBUFFER(spid)
SELECT * FROM sys.dm_exec_input_buffer(session_id, request_id);
```

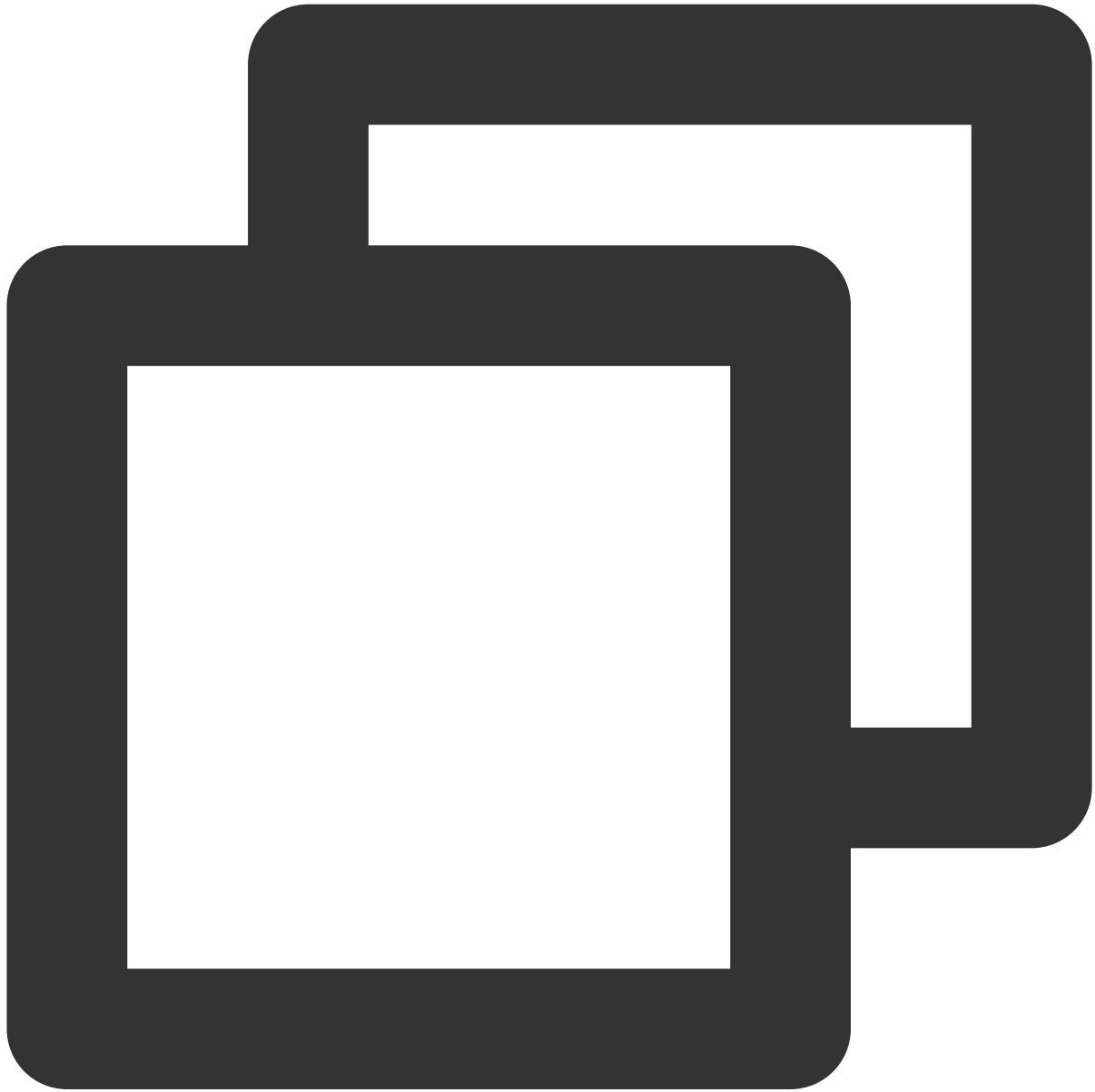### How do I analyze and solve blockage in TencentDB for SQL Server?

Symptom: When your business often runs slowly but the separate executions of individual SQL statements are fast, there is a high possibility that blocking occurs in your database and slows down the SQL execution.

Cause: Blocking occurs as another transaction is reading/writing the requested resource, and the current SQL statement can continue to read/write the resource only after the resource lock is released by the transaction. If there

are waits, the business operations will become slower.

Troubleshooting method:

1. Use the `sys.sysprocesses` system view to get relevant sessions (`blocked` is `spid` of the blocking source, and `waitresource` is the resource waited for by the blocked session).


```
select * rom sys.sysprocesses where blocked <> 0
SELECT C.text,DB_NAME(A.dbid) dbname,A.loginame,A.* FROM sys.sysprocesses A
CROSS APPLY sys.dm_exec_sql_text(A.sql_handle) C
where spid in (select SPID from sys.sysprocesses where blocked <> 0 )
```

Note:

Sometimes, `sys.dm_exec_sql_text` may fail to get the specific SQL text, but the aforementioned SQL statements can query the `spid` values of the blocking source and blocked session. Then, you can use DBCC or `sys.dm_exec_input_buffer` to query specific SQL statements.

2. Enable blocking tracking to get the detailed blocking data (if you need to adjust the threshold for blocking collection, submit a ticket for assistance).

Optimization suggestions:

1. If blocking already affects your business, run `kill spid` to kill the blocked session.

2. Check whether the blocking source is an uncommitted transaction, and if so, commit it promptly.

3. Analyze and optimize relevant SQL statements and business logic based on the blocking source SQL statement identified in previous troubleshooting steps. For example, if the execution time of the blocking source SQL statement is too long, you can analyze whether the execution plan can be optimized and whether the business logic is reasonable, and then make sure that resources are accessed in sequence to avoid blocking and deadlocks.

4. If `select` is blocked, you can use the `with(nolock)` query hint to prevent the query statement from applying for a lock, so as to avoid blocking. For example, you can run `select * from table with(nolock);` .