

TaurusDB

Getting Started

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1 Buying a DB Instance and Connecting to It Using the mysql Client

After buying a DB instance, you can connect to it using a Linux ECS with the mysql client installed over a private network. This section describes how to access a DB instance from an ECS using the mysql client.

Operation Process

Process	Description
Preparations	Sign up for a HUAWEI ID, enable Huawei Cloud services, make sure you have a valid payment method configured, create IAM users, and grant them specific TaurusDB permissions.
Step 1: Buy a DB Instance	Configure information required for instance creation.
Step 2: Buy an ECS	If you want to use the mysql client to connect to a DB instance, you need to prepare a server, install the mysql client on the server, and run the connection command. Purchase a Linux ECS that is in the same region and VPC as your DB instance. If you have purchased a Windows ECS, you can connect to the DB instance using MySQL-Front. For details, see Buying a DB Instance and Connecting to It Using MySQL-Front .
Step 3: Test Connectivity and Install the mysql Client	Test the network connectivity between the ECS and the private IP address and port of the DB instance, and install the mysql client on the ECS.
Step 4: Connect to the DB Instance Using the mysql Client	Use a command-line interface (CLI) to connect to the DB instance using the private IP address and port.

Preparations

1. Before buying a DB instance, [sign up for a HUAWEI ID and enable Huawei Cloud services](#).

If you have enabled Huawei Cloud services, skip this step.

2. For fine-grained permissions management on Huawei Cloud resources, use Identity and Access Management (IAM) to create a user or user group and grant it specific operation permissions. For details, see [Creating a User and Granting TaurusDB Permissions](#).

Procedure

Step 1: Buy a DB Instance

1. Go to the [Buy DB Instance](#) page.
2. On the **Custom Config** page, configure information about the instance and click **Next**.
 - Basic configuration

Figure 1-1 Basic configuration



Table 1-1 Basic configuration

Parameter	Example	Description
Billing Mode	Pay-per-use	<p>Billing mode of an instance.</p> <ul style="list-style-type: none"> • Yearly/Monthly: A prepaid billing mode in which you pay for resources before using it. Bills are settled based on the subscription period. The longer the subscription, the bigger the discount. This mode is a good option for long-term, stable services. • Pay-per-use: A postpaid billing mode. You pay as you go and just pay for what you use. The DB instance usage is calculated by the second but billed every hour. This mode allows you to adjust resource usage easily. You neither need to prepare for resources in advance, nor end up with excessive or insufficient preset resources. • Serverless: The instance capacities automatically change based on application requirements. You can start using the DB instance first and then pay as you go.
Region	CN-Hong Kong	<p>Region where an instance is deployed.</p> <p>NOTE You cannot change the region of an instance once it is purchased.</p>

- Resource selection

Figure 1-2 Resource selection

Resource selection

DB Engine Version

TaurusDB V2.0

Kernel Version

2.0.60.241200

To create multi-primary instances, select kernel version 2.0.63.250300,2.0.60.241201,2.0.60.241200,2.0.57.240922,2.0.57.240920,2.0.57.240905,2.0.57.240900.

Creation Method

Create new Migrate from RDS

Edition Type

Enterprise Standard

DB Instance Type

Primary/Standby Single Multi-primary

AZ Type

Single-AZ Multi-AZ

AZ

az2 az3 az4

Storage Type

DL6 DL5

Table 1-2 Resource selection

Parameter	Example	Description
DB Engine Version	TaurusDB V2.0	DB engine and version.
Kernel Version	2.0.60.241220	DB kernel version. For details about the updates in each minor kernel version, see TaurusDB Kernel Version Release History . NOTE <ul style="list-style-type: none"> To specify the kernel version when buying an instance, submit a request by choosing Service Tickets > Create Service Ticket in the upper right corner of the management console. To buy a multi-primary instance, select kernel version 2.0.45.230950 or 2.0.57.240900.
Creation Method	Create new	How an instance is created.

Parameter	Example	Description
Edition Type	Enterprise	Enterprise Edition is an enterprise-grade cloud-native database with high scalability and performance. It is fully compatible with open-source MySQL 8.0. It decouples compute from storage and uses Huawei-developed Data Function Virtualization (DFV), which scales to up to 128 TB per instance. A failover can be complete within seconds. High-value capabilities such as read/write splitting, operator pushdown, a serverless framework, and HTAP are also supported. It provides the high availability and superior performance of a commercial database at the price of an open-source database.
DB Instance Type	Primary/Standby	A primary/standby instance can contain one primary node and 1 to 15 read replicas. The primary node processes read and write requests, and the read replicas process only read requests. If the primary node becomes unavailable, TaurusDB automatically fails over to a read replica. Primary/Standby instances apply to medium- and large-sized enterprises in the Internet, taxation, banking, and insurance sectors.
AZ Type	Multi-AZ	An AZ is a physical region where resources have their own independent power supply and networks. AZs are physically isolated but interconnected through an internal network. Some regions support both single-AZ and multi-AZ deployment and some only support single-AZ deployment. <ul style="list-style-type: none"> • Single AZ: The primary node and read replicas are deployed in the same AZ. • Multi-AZ: The primary node and read replicas are deployed in different AZs to achieve higher availability and reliability. It is suitable for workloads that require cross-AZ DR or are insensitive to cross-AZ latency.

Parameter	Example	Description
Storage Type	DL6	<p>The original Shared storage. The default storage type of TaurusDB instances created before July 2024 is Shared storage, while that of TaurusDB instances created in July 2024 and beyond is DL6.</p> <p>DL6-based instances achieve zero RPO with a 3-AZ deployment and deliver better performance and higher peak throughput. They are suitable for core application systems that are sensitive to performance and have demanding requirements on storage I/O during peak hours, such as those in finance, e-commerce, government, and gaming.</p>

- Instance options

Figure 1-3 Specifications and storage

Instance Options

Resource Type
 Shared

Instance Specifications ⓘ
 Dedicated General-purpose

Dedicated instances offer premium performance by providing dedicated CPU and memory resources for your services. General-purpose: A cost-effective option where CPU and memory resources are shared with other general-purpose instances on the same physical machine.

CPU Architecture ⓘ
 x86

vCPUs Memory	Maximum Connections
<input checked="" type="radio"/> 2 vCPUs 8 GB	2500
<input type="radio"/> 4 vCPUs 16 GB	5000
<input type="radio"/> 8 vCPUs 32 GB	10000
<input type="radio"/> 16 vCPUs 64 GB	18000
<input type="radio"/> 16 vCPUs 128 GB	18000
<input type="radio"/> 32 vCPUs 128 GB	30000
<input type="radio"/> 48 vCPUs 192 GB	45000
<input type="radio"/> 60 vCPUs 256 GB	60000
<input type="radio"/> 4 vCPUs 32 GB (Sold Out)	10000
<input type="radio"/> 32 vCPUs 256 GB (Sold Out)	30000

Total Records: 12

Currently selected: Dedicated | x86 | 2 vCPUs | 8 GB

Nodes

The total number of nodes, including 1 primary node. The remainder will be read replicas. You can create up to 9 read replicas (10 nodes total).

Storage ⓘ
 Storage will be scaled up dynamically based on how much data needs to be stored. It is billed hourly on a pay-per-use basis.

Backup Space
 TaurusDB provides free backup storage equal to the amount of your purchased storage space.

TaurusDB provides free backup storage equal to the amount of your used storage space. After the free backup space is used up, you will be billed for the additional space on a pay-per-use basis. [backup space pricing details](#)

TDE ⓘ

TDE can be enabled only during DB instance creation and cannot be disabled later. Cross-region backup is unavailable for DB instances with TDE enabled.

Table 1-3 Specifications and storage

Parameter	Example	Description
Instance Specifications	Dedicated 2 vCPUs 4 GB	vCPUs and memory of an instance.

Parameter	Example	Description
CPU Architecture	x86	x86 instances use Intel® Xeon® Scalable processors and feature robust and stable computing performance. When working on high-performance networks, the instances provide the additional performance and stability that enterprise-class applications demand.
Nodes	2	This parameter is mandatory for primary/standby and multi-primary instances.
Storage	-	It contains the system overhead required for inodes, reserved blocks, and database operations.
Backup Space	-	TaurusDB provides free backup space equal to the amount of your used storage. After the free backup space is used up, you will be billed for the additional space on a pay-per-use basis.
TDE	Disabled	Transparent Data Encryption (TDE) encrypts data files and backup files using certificates to implement real-time I/O encryption and decryption. This function effectively protects the security of databases and data files.

Figure 1-4 Network

Network ⓘ

VPC ⓘ

default_vpc [Create VPC](#)

After the DB instance is created, the VPC cannot be changed.

Subnet

[Create Subnet](#)

IPv4 Address

Automatically-assigned Manually-assigned

If you want to create DB instances in batches, the IP addresses are assigned automatically. Available IP addresses: 236.

An EIP is required if you want to access DB instances through a public network. [View EIPs](#).

Security Group ⓘ

default [View Security Group](#)

In a security group, rules that authorize connections to DB instances apply to all DB instances associated with the security group.

! Ensure that port 3306 of the security group allows traffic from your server IP address to the DB instance.

Security Group Rules [Add Inbound Rule](#)

Table 1-4 Network



Parameter	Example	Description
VPC	default_vpc	Virtual network in which your instance is located. A VPC can isolate networks for different workloads. If no VPC is available, click Create VPC . After a VPC is created, click  . For details, see Creating a VPC and Subnet . NOTICE After a TaurusDB instance is created, the VPC cannot be changed.
Subnet	default_subnet	A subnet provides dedicated network resources that are logically isolated from other networks for network security.
Security Group	default	A security group enhances security by controlling access to TaurusDB from other services.

Figure 1-5 Setting an administrator password

Manager

DB Instance Name 

If you buy multiple DB instances at a time, they will be named with four digits appended in the format "DB instance name-SN". For example, if the DB instance name is Instance, the first instance will be named as Instance-0001, the second as Instance-0002, and so on.

Administrator Password Confirm Password

Keep your password secure. The system cannot retrieve your password.

Table 1-5 Database configuration

Parameter	Example	Description
DB Instance Name	TaurusDB-985e	DB instance name.

Parameter	Example	Description
Administrator Password	-	<p>The default administrator account is root.</p> <p>The administrator password must consist of 8 to 32 characters and contain at least three of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*_-=+?,()&\$.). Enter a strong password and periodically change it to improve security and defend against threats such as brute force cracking attempts.</p> <p>Keep this password secure. If lost, the system cannot retrieve it.</p> <p>After a DB instance is created, you can reset this password. For details, see Resetting the Administrator Password.</p>
Confirm Password	-	Enter the administrator password again.

- Advanced settings

Figure 1-6 Advanced settings and required quantity

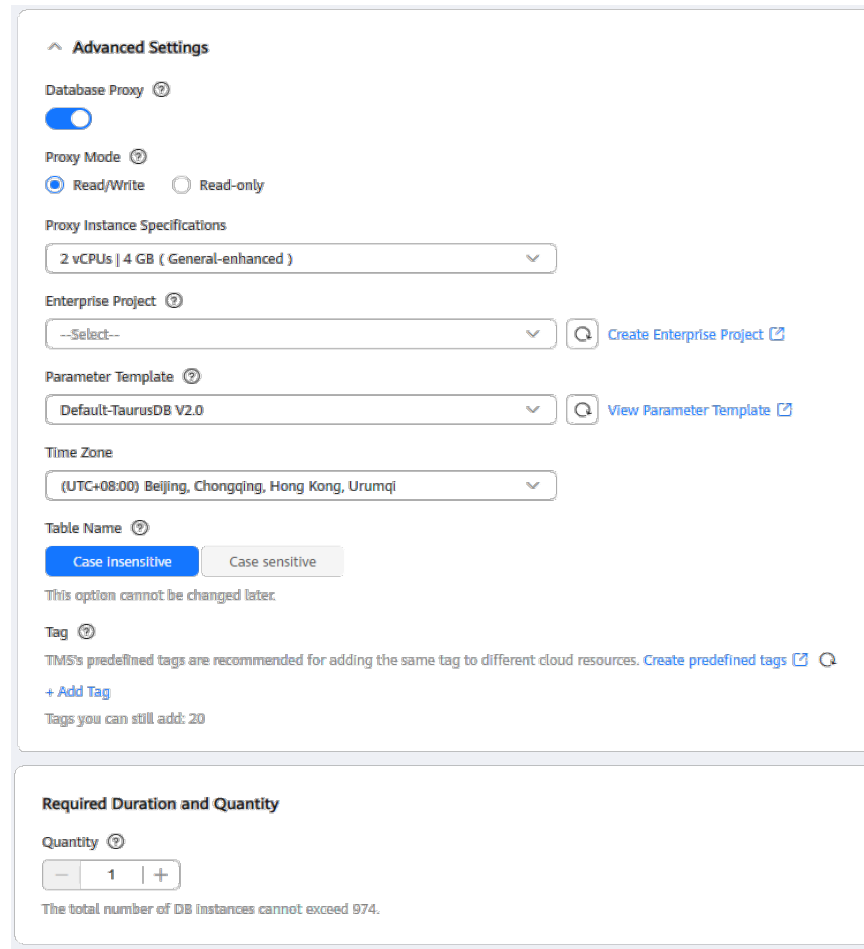


Table 1-6 Advanced settings and required quantity

Parameter	Example	Description
Enterprise Project	default	If your account has been associated with an enterprise project, select the target project from the Enterprise Project drop-down list. For more information about enterprise projects, see Enterprise Management User Guide .
Parameter Template	Default-TaurusDB V2.0	Contains engine configuration values that can be applied to one or more instances.
Time Zone	-	You need to select a time zone for your instance based on the region hosting your instance. The time zone is selected during instance creation and cannot be changed after the instance is created.

Parameter	Example	Description
Table Name	Case insensitive	Specifies whether table names are case sensitive. This option cannot be changed later. <ul style="list-style-type: none"> • Case sensitive: Table names are case sensitive. • Case insensitive: Table names are case insensitive and are stored in lowercase letters by default.
Tag	-	Tags a DB instance. This parameter is optional. Adding tags helps you better identify and manage your DB instances. Each DB instance can have up to 20 tags.
Quantity	1	You can buy DB instances in batches. The default value is 1. The value ranges from 1 to 10.

3. Check the purchased DB instance.
4. Click the DB instance name to go to the **Basic Information** page.
5. In the **Network Information** area, obtain the private IP address and database port.

Figure 1-7 Viewing the private IP address and database port



Step 2: Buy an ECS

1. **Log in to the management console** and check whether there is an ECS available.
 - If there is a Linux ECS, go to **3**.
 - If there is a Windows ECS, see **Buying a DB Instance and Connecting to It Using MySQL-Front**.
 - If no ECS is available, go to **2**.
2. Buy an ECS and select Linux (for example, CentOS) as its OS.

To download the mysql client to the ECS, bind an EIP to the ECS. The ECS must be in the same region, VPC, and security group as the DB instance for mutual communications.

For details about how to purchase a Linux ECS, see **Purchasing an ECS** in *Elastic Cloud Server Getting Started*.
3. On the **ECS Information** page, view the region and VPC of the ECS.

Figure 1-8 Viewing ECS information

ECS Information	
ID	[Redacted]
Name	[Redacted]
Region	[Redacted]
AZ	AZ3
Specifications	General computing-plus 2 vCPUs 8 GiB c6.large.4
Image	taurus client Private image Version: CentOS 8.0 64bit
VPC	default_vpc
<hr/>	
Billing Mode	Pay-per-use
Obtained	Jun 03, 2023 13:05:41 GMT+08:00
Launched	Jun 03, 2023 13:05:57 GMT+08:00
Deletion Time	-- Modify

- On the **Basic Information** page of the DB instance, view the region and VPC of the DB instance.

Figure 1-9 Viewing the region and VPC of the DB instance

Instance Information			
Basic Information			
DB Instance Name [Redacted]	Time Zone UTC+08:00	DB Instance ID 31585afe1c4e4e967dc8ba783148c1ne07	Enterprise Project default
Region [Redacted]	Maintenance Window 02:00 - 06:00 Change	Description -- Edit	Table Name Case insensitive
Configuration			
DB Instance Type Primary/Standby	Edition Type Enterprise	Kernel Version (compatible with MySQL 8.0.22) Upgrade	Instance Specifications Dedicated gaussdb.mysql.large.x86.4 2 vCPUs 8 GB Change
Nodes 2	Storage Type DL6	Storage Compression <input type="checkbox"/>	AZ Type Single-AZ
Primary AZ az3	Resource Type Shared	Administrator root Reset Password	SSL <input checked="" type="checkbox"/> Download
TDE Disabled	Binlog Pull for Read Replicas <input type="checkbox"/>	Event Scheduler <input type="checkbox"/>	
Network Information			
Private IP Address [Redacted] Modify	Public IP Address (EIP) -- Bind	Private Domain Name -- Apply	VPC default_vpc
Subnet a-new-default (192.168.128.0/18)	Security Group default Modify	Database Port 3306 Edit	Recommended Max. Connections 1,500

- Check whether the ECS and DB instance are in the same region and VPC.
 - If they are in the same region and VPC, go to **Step 3: Test Connectivity and Install the mysql Client**.
 - If they are in different regions, buy another ECS or DB instance. The ECS and DB instance in different regions cannot communicate with each other. To reduce network latency, deploy your DB instance in the region nearest to your workloads.
 - If they are in different VPCs, change the VPC of the ECS to that of the DB instance. For details, see **Changing a VPC**.

Step 3: Test Connectivity and Install the mysql Client

1. Log in to the ECS. For details, see [Logging In to a Linux ECS Using VNC](#) in *Elastic Cloud Server User Guide*.
2. On the ECS, check whether it can connect to the DB instance using the private IP address and port obtained in 5.

```
telnet private_IP_address port
```

NOTE

If the message "command not found" is displayed, install the Telnet tool based on the OS used by the ECS.

- If the ECS can connect to the DB instance, no further action is required.
- If the ECS cannot connect to the DB instance, check the security group rules.
 - If in the security group associated with the ECS, there is no outbound rule with **Destination** set to **0.0.0.0/0** and **Protocol & Port** set to **All**, add the private IP address and port of the DB instance to the outbound rules.
 - Add the private IP address and port of the ECS to the inbound rules in the security group associated with the DB instance.

3. Download the mysql client installation package for the Linux ECS.

You are advised to use a mysql client running a version later than that of the DB instance.

```
wget https://dev.mysql.com/get/mysql-community-client-8.0.21-1.el6.x86_64.rpm
```

4. Run the following command to install the mysql client:

```
rpm -ivh --nodeps mysql-community-client-8.0.21-1.el6.x86_64.rpm
```

NOTE

- If any conflicts occur during the installation, add the **replacefiles** parameter to the command and install the client again.

```
rpm -ivh --replacefiles mysql-community-client-8.0.21-1.el6.x86_64.rpm
```

- If a message is displayed prompting you to install a dependency package during the installation, add the **nodeps** parameter to the command and install the client again.

```
rpm -ivh --nodeps mysql-community-client-8.0.21-1.el6.x86_64.rpm
```

Step 4: Connect to the DB Instance Using the mysql Client

1. Run the following command on the ECS to connect to the DB instance:

```
mysql -h <host> -P <port> -u <userName> -p
```

Example:

```
mysql -h 192.*.* -P 3306 -u root -p
```

Table 1-7 Parameter description

Parameter	Description
<host>	Private IP address obtained in 5.
<port>	Database port obtained in 5. The default value is 3306 .
<userName>	Administrator account root .

2. Enter the password of the database account if the following information is displayed:

Enter password:

Figure 1-10 Connection succeeded

```
[root@ecs-e5d6-test ~]# ll
total 56080
-rw-r--r-- 1 root root 57424168 Nov  1 20:05 mysql-community-client-8.0.26-1.el6.x86_64.rpm
[root@ecs-e5d6-test ~]# mysql -h ██████████ -P 3306 -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 108609
Server version: 8.0.21-5 MySQL Community Server - (GPL)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> █
```

3. Create database **db_test**.
create database db_test;

Figure 1-11 Creating a database

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.01 sec)

mysql> create database db_test;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| db_test |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql> █
```

4. Create table `t_test`.
`create table t_test(id int(4), name char(20), age int(4));`

Figure 1-12 Creating a table

```
mysql> use db_test;
Database changed
mysql> show tables;
Empty set (0.00 sec)

mysql> create table t_test(id int(4),name char(20),age int(4));
Query OK, 0 rows affected, 2 warnings (0.03 sec)

mysql> desc t_test;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id | int | YES | | NULL | |
| name | char(20) | YES | | NULL | |
| age | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> █
```

5. Insert a data record into the table.
`insert into t_test(id, name, age) values(1, 'zhangsan', 30);`

Figure 1-13 Inserting data

```
mysql> insert into t_test(id, name, age) values(1, 'zhangsan', 30);
Query OK, 1 row affected (0.01 sec)
```

6. Query data in the table.

```
select * from t_test;
```

Figure 1-14 Querying data

```
mysql> select * from t_test;
+-----+-----+-----+
| id  | name      | age  |
+-----+-----+-----+
| 1   | zhangsan  | 30   |
+-----+-----+-----+
1 row in set (0.01 sec)

mysql>
```

7. Update the value of **age** for the data record whose **id** is 1 in the table.

```
update t_test set age=31 where id=1;
```

Figure 1-15 Updating data

```
mysql> update t_test set age=31 where id=1;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

8. Query the updated data in the table.

```
select * from t_test where id=1;
```

Figure 1-16 Querying the updated data

```
mysql> select * from t_test where id=1;
+-----+-----+-----+
| id  | name      | age  |
+-----+-----+-----+
| 1   | zhangsan  | 31   |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

9. Delete the data record whose **id** is 1 from the table.

```
delete from t_test where id=1;
```

Figure 1-17 Deleting table data

```
mysql> delete from t_test where id=1;
Query OK, 1 row affected (0.01 sec)

mysql> select * from t_test;
Empty set (0.00 sec)

mysql>
```

10. Delete the table structure.

```
drop table t_test;
```

Figure 1-18 Deleting a table structure

```
mysql> drop table t_test;
Query OK, 0 rows affected (0.01 sec)

mysql> show tables;
Empty set (0.00 sec)

mysql> █
```

11. Delete the database.

drop database db_test;

Figure 1-19 Deleting a database

```
mysql> drop database db_test;
Query OK, 0 rows affected (0.01 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.00 sec)

mysql> █
```

2 Buying a DB Instance and Connecting to It Using MySQL-Front

After buying a DB instance, you can log in to a Windows ECS, install MySQL-Front on the ECS, and use a private IP address to connect to the DB instance through MySQL-Front.

MySQL-Front is a Windows front end for MySQL databases. It allows you to interact with MySQL databases through a GUI, including connecting to a database, running SQL commands, and managing tables and records.

Operation Process

Process	Description
Preparations	Sign up for a HUAWEI ID, enable Huawei Cloud services, make sure you have a valid payment method configured, create IAM users, and grant them specific TaurusDB permissions.
Step 1: Buy a DB Instance	Configure information required for instance creation.
Step 2: Buy an ECS	Purchase a Windows ECS that is in the same region and VPC as your DB instance.
Step 3: Test Connectivity and Install MySQL-Front	Test the network connectivity between the ECS and the private IP address and port of the DB instance, and install MySQL-Front on the ECS.
Step 4: Use MySQL-Front to Connect to the DB Instance	Use MySQL-Front to connect to the DB instance using the private IP address and port.

Preparations

1. [Sign up for a HUAWEI ID and enable Huawei Cloud services.](#)
2. For fine-grained permissions management on Huawei Cloud resources, use Identity and Access Management (IAM) to create a user or user group and

grant it specific operation permissions. For details, see [Creating a User and Granting TaurusDB Permissions](#).

Procedure

Step 1: Buy a DB Instance

1. Go to the [Buy DB Instance](#) page.
2. On the **Custom Config** page, configure information about the instance and click **Next**.
 - Basic configuration

Figure 2-1 Basic configuration

Basic Configuration

Billing Mode ⓘ

Yearly/Monthly Pay-per-use Serverless

Region ⓘ

Regions are geographic areas isolated from each other. Resources are region-specific and cannot be used across regions through internal network connections.

Table 2-1 Basic configuration

Parameter	Example	Description
Billing Mode	Pay-per-use	<p>Billing mode of an instance.</p> <ul style="list-style-type: none"> • Yearly/Monthly: A prepaid billing mode in which you pay for resources before using it. Bills are settled based on the subscription period. The longer the subscription, the bigger the discount. This mode is a good option for long-term, stable services. • Pay-per-use: A postpaid billing mode. You pay as you go and just pay for what you use. The DB instance usage is calculated by the second but billed every hour. This mode allows you to adjust resource usage easily. You neither need to prepare for resources in advance, nor end up with excessive or insufficient preset resources. • Serverless: The instance capacities automatically change based on application requirements. You can start using the DB instance first and then pay as you go.
Region	CN-Hong Kong	<p>Region where an instance is deployed.</p> <p>NOTE You cannot change the region of an instance once it is purchased.</p>

- Resource selection

Figure 2-2 Resource selection

Resource selection

DB Engine Version

TaurusDB V2.0

Kernel Version

2.0.60.241200

To create multi-primary instances, select kernel version 2.0.63.250300,2.0.60.241201,2.0.60.241200,2.0.57.240922,2.0.57.240920,2.0.57.240905,2.0.57.240900.

Creation Method

Create new | Migrate from RDS

Edition Type

Enterprise | Standard

DB Instance Type

Primary/Standby | Single | Multi-primary

AZ Type

Single-AZ | Multi-AZ

AZ

az2 | az3 | az4

Storage Type

DL6 | DL5

Table 2-2 Resource selection

Parameter	Example	Description
DB Engine Version	TaurusDB V2.0	DB engine and version.
Kernel Version	2.0.60.241220	DB kernel version. For details about the updates in each minor kernel version, see TaurusDB Kernel Version Release History . NOTE <ul style="list-style-type: none"> To specify the kernel version when buying an instance, submit a request by choosing Service Tickets > Create Service Ticket in the upper right corner of the management console. To buy a multi-primary instance, select kernel version 2.0.45.230950 or 2.0.57.240900.
Creation Method	Create new	How an instance is created.

Parameter	Example	Description
Edition Type	Enterprise	Enterprise Edition is an enterprise-grade cloud-native database with high scalability and performance. It is fully compatible with open-source MySQL 8.0. It decouples compute from storage and uses Huawei-developed Data Function Virtualization (DFV), which scales to up to 128 TB per instance. A failover can be complete within seconds. High-value capabilities such as read/write splitting, operator pushdown, a serverless framework, and HTAP are also supported. It provides the high availability and superior performance of a commercial database at the price of an open-source database.
DB Instance Type	Primary/Standby	A primary/standby instance can contain one primary node and 1 to 15 read replicas. The primary node processes read and write requests, and the read replicas process only read requests. If the primary node becomes unavailable, TaurusDB automatically fails over to a read replica. Primary/Standby instances apply to medium- and large-sized enterprises in the Internet, taxation, banking, and insurance sectors.
AZ Type	Multi-AZ	An AZ is a physical region where resources have their own independent power supply and networks. AZs are physically isolated but interconnected through an internal network. Some regions support both single-AZ and multi-AZ deployment and some only support single-AZ deployment. <ul style="list-style-type: none"> • Single AZ: The primary node and read replicas are deployed in the same AZ. • Multi-AZ: The primary node and read replicas are deployed in different AZs to achieve higher availability and reliability. It is suitable for workloads that require cross-AZ DR or are insensitive to cross-AZ latency.

Parameter	Example	Description
Storage Type	DL6	<p>The original Shared storage. The default storage type of TaurusDB instances created before July 2024 is Shared storage, while that of TaurusDB instances created in July 2024 and beyond is DL6.</p> <p>DL6-based instances achieve zero RPO with a 3-AZ deployment and deliver better performance and higher peak throughput. They are suitable for core application systems that are sensitive to performance and have demanding requirements on storage I/O during peak hours, such as those in finance, e-commerce, government, and gaming.</p>

- Instance options

Figure 2-3 Specifications and storage

Instance Options

Resource Type
 Shared

Instance Specifications ⓘ
 Dedicated General-purpose

Dedicated instances offer premium performance by providing dedicated CPU and memory resources for your services. General-purpose: A cost-effective option where CPU and memory resources are shared with other general-purpose instances on the same physical machine.

CPU Architecture ⓘ
 x86

vCPUs Memory	Maximum Connections
<input checked="" type="radio"/> 2 vCPUs 8 GB	2500
<input type="radio"/> 4 vCPUs 16 GB	5000
<input type="radio"/> 8 vCPUs 32 GB	10000
<input type="radio"/> 16 vCPUs 64 GB	18000
<input type="radio"/> 16 vCPUs 128 GB	18000
<input type="radio"/> 32 vCPUs 128 GB	30000
<input type="radio"/> 48 vCPUs 192 GB	45000
<input type="radio"/> 60 vCPUs 256 GB	60000
<input type="radio"/> 4 vCPUs 32 GB (Sold Out)	10000
<input type="radio"/> 32 vCPUs 256 GB (Sold Out)	30000

Total Records: 12

Currently selected: Dedicated | x86 | 2 vCPUs | 8 GB

Nodes

The total number of nodes, including 1 primary node. The remainder will be read replicas. You can create up to 9 read replicas (10 nodes total).

Storage ⓘ
 Storage will be scaled up dynamically based on how much data needs to be stored. It is billed hourly on a pay-per-use basis.

Backup Space
 TaurusDB provides free backup storage equal to the amount of your purchased storage space.

TaurusDB provides free backup storage equal to the amount of your used storage space. After the free backup space is used up, you will be billed for the additional space on a pay-per-use basis. [backup space pricing details](#)

TDE ⓘ

TDE can be enabled only during DB instance creation and cannot be disabled later. Cross-region backup is unavailable for DB instances with TDE enabled.

Table 2-3 Specifications and storage

Parameter	Example	Description
Instance Specifications	Dedicated 2 vCPUs 4 GB	vCPUs and memory of an instance.

Parameter	Example	Description
CPU Architecture	x86	x86 instances use Intel® Xeon® Scalable processors and feature robust and stable computing performance. When working on high-performance networks, the instances provide the additional performance and stability that enterprise-class applications demand.
Nodes	2	This parameter is mandatory for primary/standby and multi-primary instances.
Storage	-	It contains the system overhead required for inodes, reserved blocks, and database operations.
Backup Space	-	TaurusDB provides free backup space equal to the amount of your used storage. After the free backup space is used up, you will be billed for the additional space on a pay-per-use basis.
TDE	Disabled	Transparent Data Encryption (TDE) encrypts data files and backup files using certificates to implement real-time I/O encryption and decryption. This function effectively protects the security of databases and data files.

Figure 2-4 Network

Network ⓘ

VPC ⓘ

default_vpc [Create VPC](#)

After the DB instance is created, the VPC cannot be changed.

Subnet

[Create Subnet](#)

IPv4 Address

Automatically-assigned Manually-assigned

If you want to create DB instances in batches, the IP addresses are assigned automatically. Available IP addresses: 236.

An EIP is required if you want to access DB instances through a public network. [View EIPs](#).

Security Group ⓘ

default [View Security Group](#)

In a security group, rules that authorize connections to DB instances apply to all DB instances associated with the security group.

! Ensure that port 3306 of the security group allows traffic from your server IP address to the DB instance.

Security Group Rules [Add Inbound Rule](#)

Table 2-4 Network



Parameter	Example	Description
VPC	default_vpc	Virtual network in which your instance is located. A VPC can isolate networks for different workloads. If no VPC is available, click Create VPC . After a VPC is created, click  . For details, see Creating a VPC and Subnet . NOTICE After a TaurusDB instance is created, the VPC cannot be changed.
Subnet	default_subnet	A subnet provides dedicated network resources that are logically isolated from other networks for network security.
Security Group	default	A security group enhances security by controlling access to TaurusDB from other services.

Figure 2-5 Setting an administrator password

Manager

DB Instance Name 

If you buy multiple DB instances at a time, they will be named with four digits appended in the format "DB instance name-SN". For example, if the DB instance name is Instance, the first instance will be named as Instance-0001, the second as Instance-0002, and so on.

Administrator Password Confirm Password

Keep your password secure. The system cannot retrieve your password.

Table 2-5 Database configuration

Parameter	Example	Description
DB Instance Name	TaurusDB-985e	DB instance name.

Parameter	Example	Description
Administrator Password	-	<p>The default administrator account is root.</p> <p>The administrator password must consist of 8 to 32 characters and contain at least three of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*_-=+?,()&\$.). Enter a strong password and periodically change it to improve security and defend against threats such as brute force cracking attempts.</p> <p>Keep this password secure. If lost, the system cannot retrieve it.</p> <p>After a DB instance is created, you can reset this password. For details, see Resetting the Administrator Password.</p>
Confirm Password	-	Enter the administrator password again.

- Advanced settings

Figure 2-6 Advanced settings and required quantity

The screenshot displays the 'Advanced Settings' section of a TaurusDB instance configuration page. It includes several configuration options:

- Database Proxy:** A toggle switch is turned on.
- Proxy Mode:** Radio buttons for 'Read/Write' (selected) and 'Read-only'.
- Proxy Instance Specifications:** A dropdown menu showing '2 vCPUs | 4 GB (General-enhanced)'.
- Enterprise Project:** A dropdown menu with '--Select--' and a search icon, with a link to 'Create Enterprise Project'.
- Parameter Template:** A dropdown menu showing 'Default-TaurusDB V2.0' and a link to 'View Parameter Template'.
- Time Zone:** A dropdown menu showing '(UTC+08:00) Beijing, Chongqing, Hong Kong, Urumqi'.
- Table Name:** Two buttons: 'Case Insensitive' (highlighted in blue) and 'Case sensitive'.
- Tag:** A section with a search icon, a note about predefined tags, a '+ Add Tag' link, and a counter 'Tags you can still add: 20'.

Below the advanced settings is the 'Required Duration and Quantity' section, which includes a 'Quantity' dropdown set to '1' and a note: 'The total number of DB instances cannot exceed 974.'

Table 2-6 Advanced settings and required quantity

Parameter	Example	Description
Enterprise Project	default	If your account has been associated with an enterprise project, select the target project from the Enterprise Project drop-down list. For more information about enterprise projects, see Enterprise Management User Guide .
Parameter Template	Default-TaurusDB V2.0	Contains engine configuration values that can be applied to one or more instances.
Time Zone	-	You need to select a time zone for your instance based on the region hosting your instance. The time zone is selected during instance creation and cannot be changed after the instance is created.

Parameter	Example	Description
Table Name	Case insensitive	Specifies whether table names are case sensitive. This option cannot be changed later. <ul style="list-style-type: none"> • Case sensitive: Table names are case sensitive. • Case insensitive: Table names are case insensitive and are stored in lowercase letters by default.
Tag	-	Tags a DB instance. This parameter is optional. Adding tags helps you better identify and manage your DB instances. Each DB instance can have up to 20 tags.
Quantity	1	You can buy DB instances in batches. The default value is 1 . The value ranges from 1 to 10.

3. Check the purchased DB instance.
4. Click the DB instance name to go to the **Basic Information** page.
5. In the **Network Information** area, obtain the private IP address and database port.

Figure 2-7 Viewing the private IP address and database port

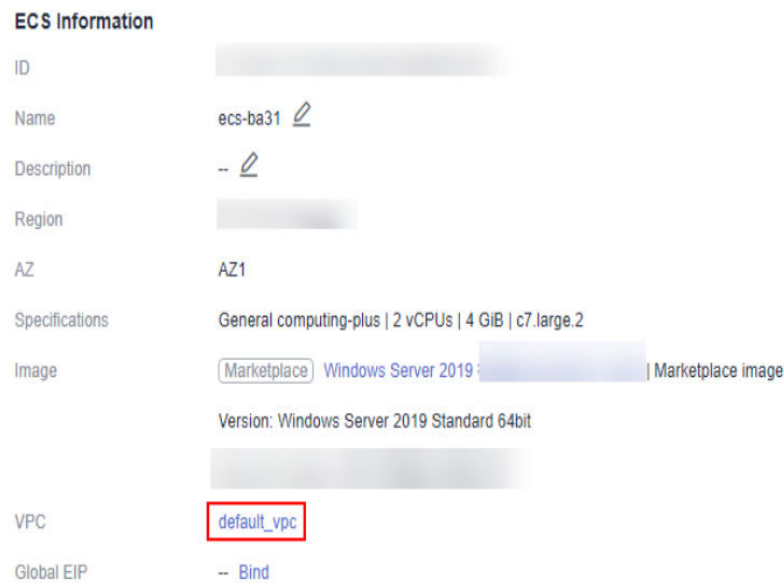


Step 2: Buy an ECS

1. **Log in to the management console** and check whether there is an ECS available.
 - If there is a Linux ECS, see [Buying a DB Instance and Connecting to It Using the mysql Client](#).
 - If there is a Windows ECS, go to **3**.
 - If no ECS is available, go to **2**.
2. Buy an ECS and select Windows as its OS.

To download the mysql client to the ECS, bind an EIP to the ECS. The ECS must be in the same region, VPC, and security group as the DB instance for mutual communications.

For details about how to purchase a Windows ECS, see [Purchasing an ECS in Elastic Cloud Server Getting Started](#).
3. On the **ECS Information** page, view the region and VPC of the ECS.

Figure 2-8 Viewing ECS information

4. On the **Basic Information** page of the DB instance, view the region and VPC of the DB instance.
5. Check whether the ECS and DB instance are in the same region and VPC.
 - If they are in different regions, buy another ECS or DB instance. The ECS and DB instance in different regions cannot communicate with each other. To reduce network latency, deploy your DB instance in the region nearest to your workloads.
 - If they are in different VPCs, change the VPC of the ECS to that of the DB instance. For details, see [Changing a VPC](#).

Step 3: Test Connectivity and Install MySQL-Front

1. Log in to the ECS. For details, see [Logging In to a Windows ECS Using VNC](#) in *Elastic Cloud Server User Guide*.
2. On the ECS, check whether it can connect to the DB instance using the private IP address and port obtained in 5.

```
telnet private_ip_address port
```

NOTE

If the message "command not found" is displayed, install the Telnet tool based on the OS used by the ECS.

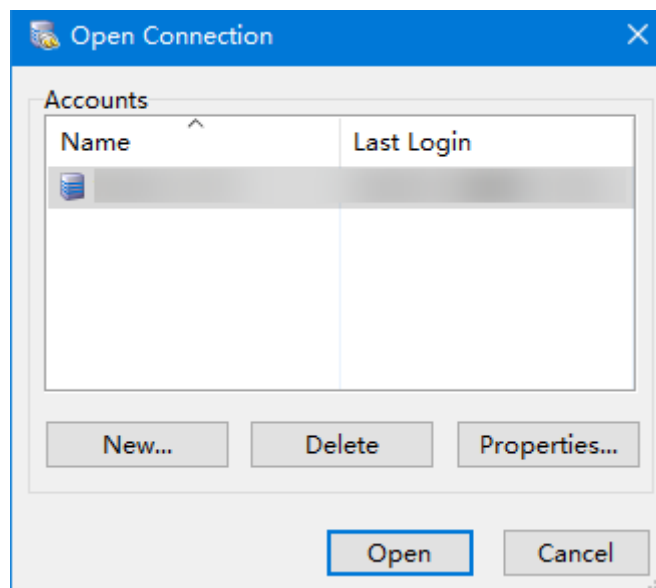
- If the ECS can connect to the DB instance, no further action is required.
- If the ECS cannot connect to the DB instance, check the security group rules.
 - If in the security group associated with the ECS, there is no outbound rule with **Destination** set to **0.0.0.0/0** and **Protocol & Port** set to **All**, add the private IP address and port of the DB instance to the outbound rules.

- Add the private IP address and port of the ECS to the inbound rules in the security group associated with the DB instance.
3. Open a browser, and download and install the MySQL-Front tool on the ECS (version 5.4 is used as an example).

Step 4: Use MySQL-Front to Connect to the DB Instance

1. Start MySQL-Front.
2. In the displayed dialog box, click **New**.

Figure 2-9 Creating a connection



3. Enter the information about the DB instance to be connected and click **Ok**.

Figure 2-10 Adding an account

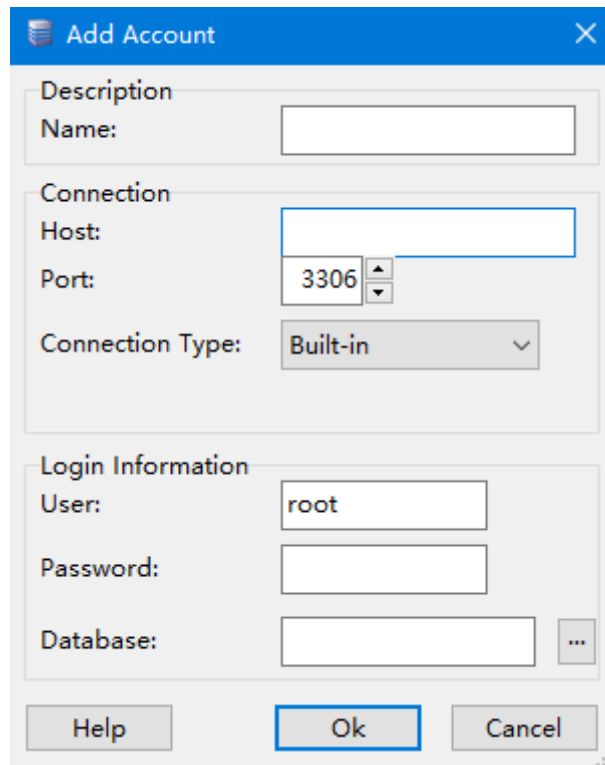
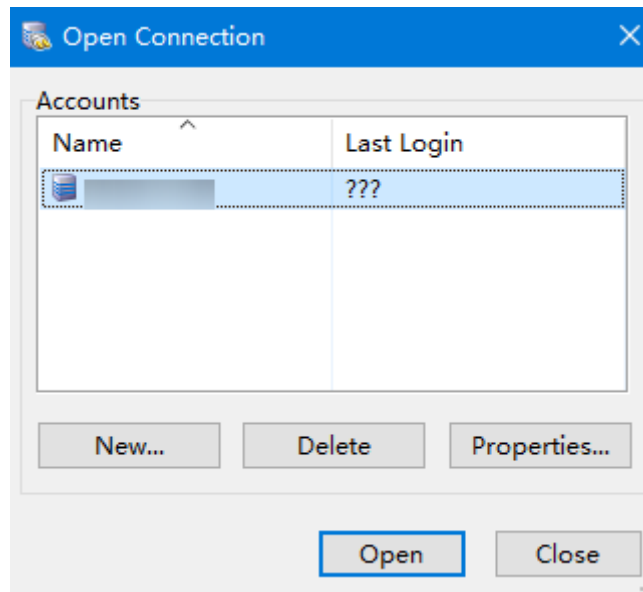


Table 2-7 Parameter description

Parameter	Description
Name	Name of a task for connecting to a database. If you do not specify this parameter, it will be the same as that configured for Host by default.
Host	Private IP address.
Port	Database port. The default value is 3306 .
User	Username used for accessing an instance. The default value is root .
Password	Password used for accessing an instance.

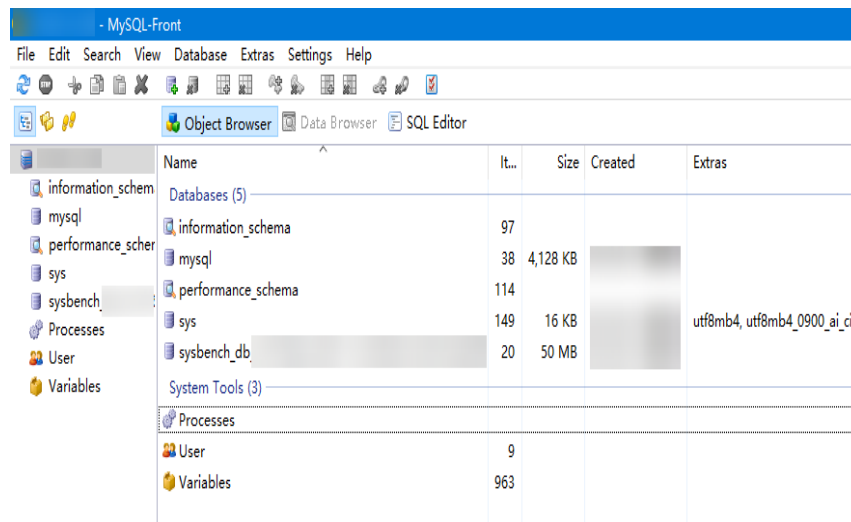
4. In the displayed window, select the connection that you created and click **Open**.

Figure 2-11 Opening a connection



5. If the connection information is correct, the DB instance is successfully connected.

Figure 2-12 Login succeeded



3 Getting Started with Common Practices

After purchasing and connecting to a TaurusDB instance, you can view common practices to better use TaurusDB.

Table 3-1 Common practices

Practice		Description
Read/ Write splitting	How to Use a Proxy Instance to Enable Read/Write Splitting	This practice describes how to enable read/write splitting, so that read and write requests can be automatically routed through a proxy address.
	Enabling Transaction Splitting for a Proxy Instance	This practice describes how to configure transaction splitting for a database proxy instance. With this function enabled, TaurusDB can route the read requests prior to write operations in a transaction to read replicas, reducing the pressure on the primary node.
	Changing Read Weights of Nodes	This practice describes how to configure read weights of the primary node and read replicas after read/write splitting is enabled.
Data backups	Configuring a Same-Region Backup Policy	This practice describes how TaurusDB automatically creates backups for a DB instance during a backup window and saves the backups based on the configured retention period.
	Creating a Manual Backup	This practice describes how to create manual backups for a DB instance. These backups can be used to restore data for improved reliability.

Practice		Description
	Configuring a Cross-Region Backup Policy	This practice describes how to store backups in a different region from the DB instance for disaster recovery. If a DB instance in one region fails, backups from another region can be used to restore the data to a new DB instance.
Data restorations	Restoring a DB Instance from Backups	This practice describes how to use an automated or manual backup to restore a DB instance to how it was when the backup was created. The restoration is at the instance level.
	Restoring a DB Instance to a Point in Time	This practice describes how to use an automated backup to restore instance data to a specified point in time.
	Restoring Tables to a Point in Time	This practice describes how to use an automated backup to restore table data to a specified point in time.
Data migration	From MySQL to TaurusDB	This practice describes how to use Data Replication Service (DRS) to migrate table, database, or instance data of the source to the destination TaurusDB.
	Migrating Data to TaurusDB Using mysqldump	This practice describes how to use mysqldump to copy data of the source to the destination TaurusDB.
	From ECS-hosted MySQL to TaurusDB	This practice describes how to use DRS to migrate data from ECS-hosted MySQL databases to TaurusDB.
	From Other Cloud MySQL to TaurusDB	This practice describes how to use DRS to migrate data from MySQL databases on other clouds to TaurusDB.