

Data Transmission Service

Error Handling (NewDTS)

Product Documentation



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Error Handling (NewDTS)

Common Errors

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This document describes some common errors and how to fix them.

Common MySQL Errors

Common errors reported in the MySQL system during database migration, sync, or subscription and their solutions are as detailed below:

Error Code	Description	Scenario	Error Message	Analysis and Solution
1227	There is a permission problem.	Data migration, sync, or subscription	Error 1227: Access denied.	<ul style="list-style-type: none">• Error analysis The account running the task doesn't have the permission to connect to the source data.• Solution Authorize the account running the task.
1040	There are too many database connections.	Data migration or sync	Error 1040: Too many connections.	<ul style="list-style-type: none">• Error analysis There are too many connections to the database.• Solution Increase the maximum number of connections to the source database (<code>max_connections</code>) or run the task again after the business traffic drops.
1045	There is a permission problem.	Data migration, sync, or subscription	Error 1045 (28000): Access denied for user '{{xx}}'@'{{xx}}' (using password: YES)	<ul style="list-style-type: none">• Error analysis The account running the task doesn't have the permission to connect to the source or target database.• Solution Authorize the account running the task.

Error Code	Description	Scenario	Error Message	Analysis and Solution
1062	There is a primary key conflict.	Data sync	Error 1062: Duplicate entry '{{xx}}' for key 'PRIMARY', related tables: '{{xx}}'.	<ul style="list-style-type: none"> • Error analysis If you select Report for Primary Key Conflict Resolution in data sync, DTS will report an error when encountering a primary key conflict between the source and target databases. • Solution Modify or delete the primary key in the particular table in the target database and run the task again.
1071	The index field is too long.	Data migration or sync	Error 1071 (42000): Specified key was too long; max key length is 767 bytes.	<ul style="list-style-type: none"> • Error analysis By default, a single-field index in the InnoDB engine can contain up to 767 bytes, i.e., 384 two-byte fields or 256 three-byte fields. GBK, UTF-8, and utf8mb4_unicode_ci are two-, three-, and four-byte character sets respectively. On MySQL 5.6 or later, all MyISAM tables will be automatically converted to InnoDB tables. Therefore, if your self-built database has a composite index column containing more than 767 bytes, the same table creation statements that can normally run in your self-built database cannot properly run on MySQL 5.6 or later. • Solution Shorten the length of the composite index column of the abnormal row in the file. Example: <pre>create table test (test varcahr (255) primary key) charset=utf8;</pre> -- Succeeded <pre>create table test (test varcahr (256) primary key) charset=utf8;</pre> -- Failed

Error Code	Description	Scenario	Error Message	Analysis and Solution
1146	A DDL statement changing the table structure is executed in the source database during data export.	Data migration	Error 1146: Table '{{xx}}' doesn't exist on query. Default database: '{{xx}}'.	<ul style="list-style-type: none"> • Error analysis <ol style="list-style-type: none"> 1. The source or target instance is isolated or deactivated. 2. A DDL statement changing the table structure is executed in the source database. • Solution <p>Check whether the corresponding table exists in the source or target database; if so, submit a ticket for assistance; if not, check whether the error is caused by above factors and create the task again.</p>
1213	A deadlock is caused by double write to the source and target databases.	Data sync	Error 1213: Deadlock found when trying to get lock; try restarting transaction, related tables: '{{xx}}'.	<ul style="list-style-type: none"> • Error analysis <p>The write operation performed by DTS in the target database conflicts with the write operation performed by you, causing a deadlock.</p> • Solution <ol style="list-style-type: none"> 1. Kill the deadlock process and create the task again. 2. We recommend you control the lock logic for UPDATE operations in the instance, add an index to tables, and use row lock as much as possible to reduce lock overheads.
1236	There is a source database binlog problem.	Data migration, sync, or subscription	Error 1236 (HY000): Cannot replicate because the master purged required binary logs. Replicate the missing transactions from elsewhere, or provision a new slave from backup.....	<ul style="list-style-type: none"> • Error analysis <p>The binlog retention period in the source database is short, so the binlog has already been cleared or at an incorrect position when DTS pulls data.</p> • Solution <p>Check whether the binlog retention period (<code>expire_logs_days</code>) set in the source database meets the business requirements. We recommend you set it to above one day and create the task again.</p>

Error Code	Description	Scenario	Error Message	Analysis and Solution
1414	A DDL statement changing the table structure is executed in the source database during data export.	Data migration	Error 1414: Table definition has changed, please retry transaction.	<ul style="list-style-type: none"> • Error analysis DDL statements changing the table structure cannot be executed during data export from the source database; otherwise, an error will be reported. • Solution Create the migration task again.

Common DTS Errors

Common errors reported in the DTS system during database migration, sync, or subscription and their solutions are as detailed below:

Error Description	Scenario	Error Message	Analysis and Solution
The source database has a slow SQL statement, so the table fails to be locked.	Data migration or sync	Find Resumable Error, src db has long query sql, fix it and try it later.	<ul style="list-style-type: none"> • Error analysis If the source database has a slow SQL statement, to prevent the source database business from being affected, DTS needs to wait for the execution of the slow SQL statement to complete before locking the table and exporting data. The default lock time is 60 seconds, after which table locking will fail, and the task will report an error. • Solution Process the slow SQL statement in the source database or create the task again after its execution is completed.
The database cannot be connected to.	Data migration, sync, or subscription	dial tcp {{*}}: connect: connection refused.	<ul style="list-style-type: none"> • Error analysis The source or target database is isolated or deactivated during task execution, so DTS can't connect to it. • Solution Check the source or target database status and create the task again.

Error Description	Scenario	Error Message	Analysis and Solution
The binlog parameter doesn't meet the format requirements.	Data migration, sync, or subscription	<ul style="list-style-type: none">Statement binlog format unsupported: {{xx}}.binlog must ROW format, but MIXED now.binlog row before/after image not full, missing column {{xx}}, binlog position: {{xx}}, gtid: {{*}}.	<ul style="list-style-type: none">Error analysis The <code>binlog_format</code> and <code>binlog_row_image</code> parameters in the source database need to be set to <code>ROW</code> and <code>FULL</code> respectively. Modified parameters can take effect only after the thread is restarted.Solution Modify the parameter according to the error message as instructed in Binlog Parameter Check and create the task again.

Failed Connectivity Test

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Issue

The source or target database connectivity test fails when you create a data migration, sync, or subscription task.

Possible Causes

- If the Telnet test fails, the causes may be:
 - [The server where the source database resides has a security group or firewall configured.](#)
 - [The source IP addresses are blocked in the source database.](#)
 - [The source database port is not opened.](#)
 - [There is a network conflict, such as IP range conflict or incorrect parameter configuration.](#)
- If the Telnet test is passed, but the database connection fails, the causes may be:
 - [There is an account authorization problem.](#)
 - [The account or password is incorrect.](#)

Security Group or Firewall Configured in Network or Server of Source Database

A security group is similar to a firewall. It is a group of network security settings for databases in the cloud.

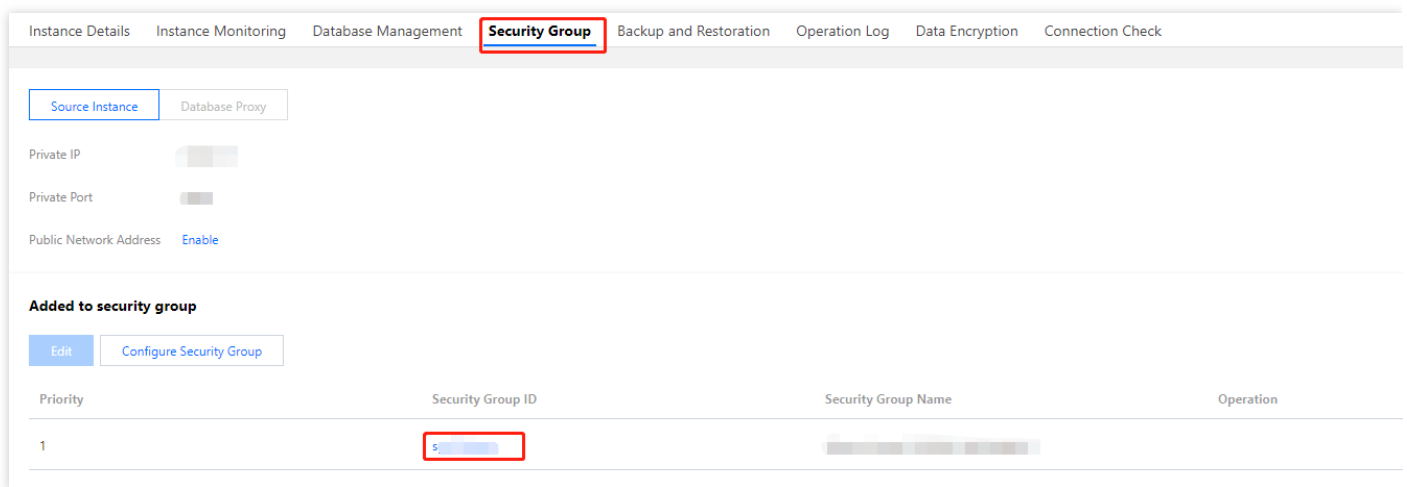
Check as follows based on the actual conditions:

- If the source database is a self-built database, check whether the server where the source database resides is configured with firewall policies, and if so, disable the firewall.
 - Windows: Open Control Panel and find the Windows Defender Firewall and check whether firewall policies are configured.
 - Linux: Run the `iptables -L` command to check whether the server is configured with firewall policies.

- If the source database is a TencentDB database, check whether DTS IP range is blocked in the security group of the database, and if so, modify as follows:

When the connectivity test fails, the IP range that needs to be allowed for DTS will be displayed in the console as shown below:

- Log in to the source database (with MySQL as an example) and click an instance ID in the instance list to enter the instance management page.
- On the instance management page, select the **Security Group** tab and check whether there are policies blocking the SNAT IP range of DTS.



Instance Details Instance Monitoring Database Management **Security Group** Backup and Restoration Operation Log Data Encryption Connection Check

Source Instance Database Proxy

Private IP

Private Port

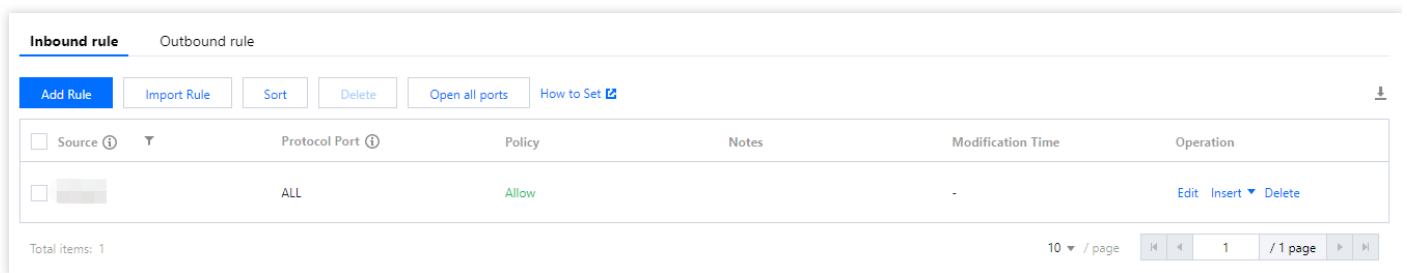
Public Network Address [Enable](#)

Added to security group

[Edit](#) [Configure Security Group](#)

Priority	Security Group ID	Security Group Name	Operation
1	<input type="text"/>	<input type="text"/>	<input type="text"/>

- Set the DTS IP range policy to **Allow**.



Inbound rule Outbound rule

[Add Rule](#) [Import Rule](#) [Sort](#) [Delete](#) [Open all ports](#) [How to Set](#)

Source	Protocol Port	Policy	Notes	Modification Time	Operation
<input type="checkbox"/>	ALL	Allow		-	Edit Insert Delete

Total items: 1

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- If the source database is a third-party cloud database, check the security group settings.

Source IP Addresses Blocked in Source Database

Check method

MySQL

- On the server where the source database is deployed, use the database account and password entered in the data migration task to connect to the source database. If the database can be normally connected, the source IP address may be blocked in the source database.
- For self-built database, you need to check the `bind-address` configuration in the database. If it is not `0.0.0.0`, the IP is blocked.
- If the source database is MySQL, you can use the MySQL client to connect to it, run the following SQL statement, and check whether the list of authorized IP addresses contains the SNAT IP addresses of DTS in the output result. When granting database permissions to users, the authorized IPs must include the SNAT IPs; otherwise, they may be blocked; for example:

```
root@10.0.0.0/8 // Authorize users to access through `10.0.0.0/8`, and other IP
s will be blocked (incorrect configuration)
root@% // Authorize users to access all IPs, which should include the SNAT IPs
(correct configuration)
```

You can verify as follows:

```
select host,user,authentication_string,password_expired,account_locked from
mysql.user WHERE user='[\$Username]'; // `[\$Username)` is the database account e
ntered in the data migration task
```

SQL Server

Check whether there is an endpoint or trigger that blocks the access source IP address in the source database.

PostgreSQL

- If the source database is a third-party cloud database, check whether the secure access policies in the source instance have restrictions. Check as follows according to the specific cloud vendor:
- If the source database is a self-built PostgreSQL database, enter the `data` directory in the `$PGDATA` directory, find the `pg_hba.conf` file, and check whether the file contains a `deny` policy or only allows access from certain IP addresses over the network.

```
# cat pg_hba.conf
local replication all trust
host replication all 127.x.x.1/32 trust
host replication all ::1/128 trust
host all all 0.0.0.0/0 md5
host all all 172.x.x.0/20 md5
```

MongoDB

For self-built database, you need to check the `bind-address` configuration in the database. If it is not `0.0.0.0`, the IP is blocked.

Fix

MySQL

1. If the source database is MySQL, run the following SQL statement in it to authorize the user configured in the data migration task.

```
mysql> grant all privileges on . to '[\$UserName]'@'%'; // `[\$Username]` is the database account entered in the data migration task
mysql> flush privileges;
```

2. If the source database is a self-built database, you also need to check whether the `bind-address` configuration is abnormal, and if so, modify it as instructed below.

- 2.1. Add the following content to the `/etc/my.cnf` file:

Note :

The default path of the `my.cnf` configuration file is `/etc/my.cnf`, subject to the actual conditions.

```
bind-address=0.0.0.0 # All IP addresses or specified addresses
```

- 2.2. Restart the database.

```
service mysqld restart
```

- 2.3. Check whether the configuration takes effect.

```
netstat -tln
```

3. Run the verification task again.

SQL Server

Disable the firewall or trigger.

PostgreSQL

1. Add an access policy allowing the DTS IP range to the `pg_hba.conf` file or temporarily open all IP ranges in the access policy during migration. For example, add the following line to the `pg_hba.conf` file:

```
host all all 0.0.0.0/0 md5
```

2. After the modification is completed, you can restart the database instance to make the configuration take effect:

```
pg_ctl -D $PGDATA restart
```

3. Run the verification task again.

MongoDB

Configure `bind-address` as instructed in [MySQL](#).

Closed Network Port

Below are the default ports for common databases. You need to check whether they are opened, and if not, open them based on the actual conditions:

If the source database is SQL Server, you need to open the file sharing service port 445 at the same time.

- MySQL: 3306
- SQL Server: 1433
- PostgreSQL: 5432
- MongoDB: 27017
- Redis: 6379

Network Conflict

If you select the [VPN/Direct Connect](#) or [CCN](#) access method, you can refer to the documentation for troubleshooting.

Migration Account Authorization

Authorize the account again as instructed in the corresponding scenario in [Migration from MySQL to TencentDB for MySQL](#).

Incorrect Database Account or Password

Log in to the source database to check whether the account and password are correct.

Failed or Alarmed Check Item

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Issue

The result of a check item is **Failed** or **Alarm** during task verification.

- **Failed**: It indicates that a check item failed and the task is blocked. You need to fix the problem and run the verification task again.
- **Alarm**: It indicates that a check item doesn't completely meet the requirements, and the task can be continued, but the business will be affected. You need to assess whether to ignore the alarm or fix the problem and continue the task based on the alarm message.

Possible Causes

The check item doesn't meet the requirements.

Solutions

Fix the problem as instructed in [Check Item Overview](#).

Inability to Select Subnet During CCN Access

Last updated : 2022-06-22 16:19:20

Issue

The subnet cannot be selected during CCN access.

Possible Causes

The account of the CCN-associated VPC is different from that running the migration/sync task.

Solutions

The account of the CCN-associated VPC must be the same as that running the migration/sync task.

For example, to migrate an instance from account A to account B, you should use account B to create a task, so the CCN-associated VPC must be under account B.

For more information on CCN configuration, see [CCN Access: Configuring VPC-IDC Interconnection Through CCN](#).

Slow or Stuck Migration

Last updated : 2022-06-22 16:19:20

Issue

The migration/sync task takes too long or gets stuck.

Possible Causes

- The migrated data volume is high.
- The source database has a slow SQL statement.
- The source database content is non-compliant.
- The bandwidth is restricted or there are network jitters.
- No data is written to the source database during incremental migration or sync.

Note :

If you select **Full + Incremental migration** as the migration type, after the full migration task is completed, the incremental migration task will continue, and you need to manually stop it by clicking **Done** in the **Operation** column; otherwise, the task will keep running, which is not the case of a stuck task.

Solutions

High migrated data volume

The data volume is high, slowing down the migration/sync task.

Slow SQL statement in source database

Check whether the source database has a slow SQL statement; if so, process the statement; if not, check other causes.

Non-compliant source database content

The content in the source database is non-compliant. For example, if the source database has tables without a primary key, large queries involving such tables will slow down the task. We recommend you add a primary key to such tables or not migrate them.

Network problem

- If you use CCN for access, check the bandwidth configured in CCN. CCN only provides bandwidth below 10 Kbps between all regions free of charge, which is insufficient for DTS to transfer data. In this case, you need to configure a higher bandwidth.
- If you use a self-built database, check whether the network bandwidth is restricted.

No data written to source database during incremental migration or sync

In incremental migration or sync, if no data is written to the source database for a long time or there is an empty binlog, you can write data to the source database to resume the task.

Data Sync Delay

Last updated : 2022-07-21 11:53:16

Issue

The content synced between the source and target databases has a delay.

Possible Causes

- The target database has a high load.
- The target database has a low specification.
- No data is written to the source database for a long time.
- The bandwidth is restricted or there are network jitters.

Solutions

High load in target database

View the RPS of the source and target databases in the [monitoring data](#). If the RPS is low, the target database may have a high load.

If the target database has a high load, check whether the task is normal after the business traffic drops or upgrade the target database specification.

Low specification of target database

Upgrade the target database specification.

No data written to source database during incremental migration or sync

In incremental migration or sync, if no data is written to the source database for a long time or there is an empty binlog, you can write data to the source database to resume the task.

Network problem

- If you use CCN for access, check the bandwidth configured in CCN. CCN only provides bandwidth below 10 Kbps between all regions free of charge, which is insufficient for DTS to transfer data. In this case, you need to configure a [higher bandwidth](#).
- If you use a self-built database, check whether the network bandwidth is restricted.