How to configure MySQL database exchange on HCP2.3

1. Preface

This article mainly introduces how HCP v2.3 synchronizes the access control data of the platform to the third-party database MySQL for on-site customers to synchronize access control data and calculate attendance. The focus of the document is on the demonstration of the overall operation process and the FAQ in the process for the reference of the technical support team.

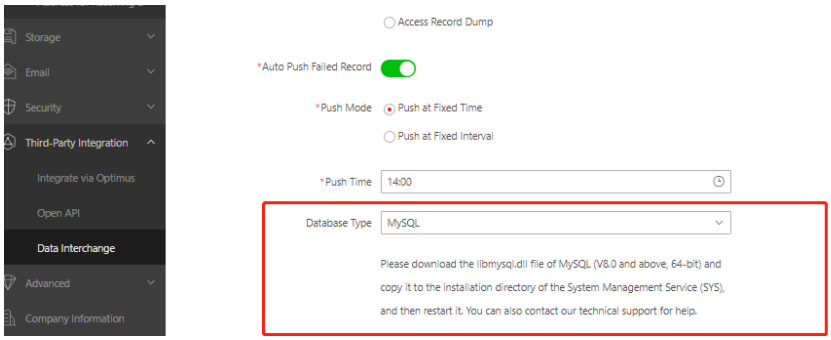
2. Prepare

Install MySQL database (version 8.0 or later is required).

Install the database visualization tools Navicate, DBever, etc. connect to the database, and ensure that the network and port between the server and the third-party database are connected.

3. File Replacement

Enter 【System Configuration】>【Third-Party Integration】>【Data Interchange】, Select MySQL as the database type.



You need to replace the following files to the sys.exe peer directory (X:\HikCentral\VSM Servers\SYS), and restart the sys service after replacement.

If MySQL is deployed in the Windows environment, you can find the following files through the MySQL installation path。

Default file path in MySQL server	File name
C:\Program Files\MySQL\MySQL Server 8.0\lib	libmysql.dll
C:\Program Files\MySQL\MySQL Server 8.0\bin	libssl-1_1-x64.dll
C:\Program Files\MySQL\MySQL Server 8.0\bin	libcrypto-1_1-x64.dll
C:\Windows\System32	vcruntime140_1.dll

If MySQL is deployed in the Linux environment and the above files cannot be found, you can download and replace the following files or contact the headquarters technical support.

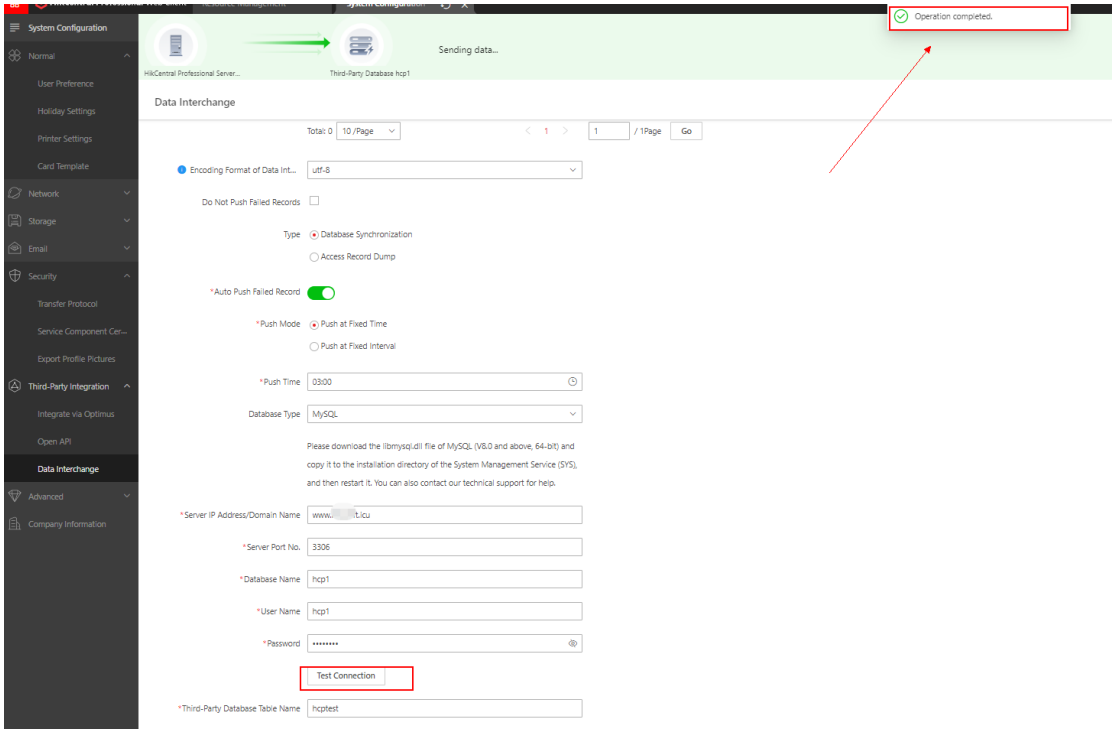

libmysql.dll


libeay32.dll


ssleay32.dll

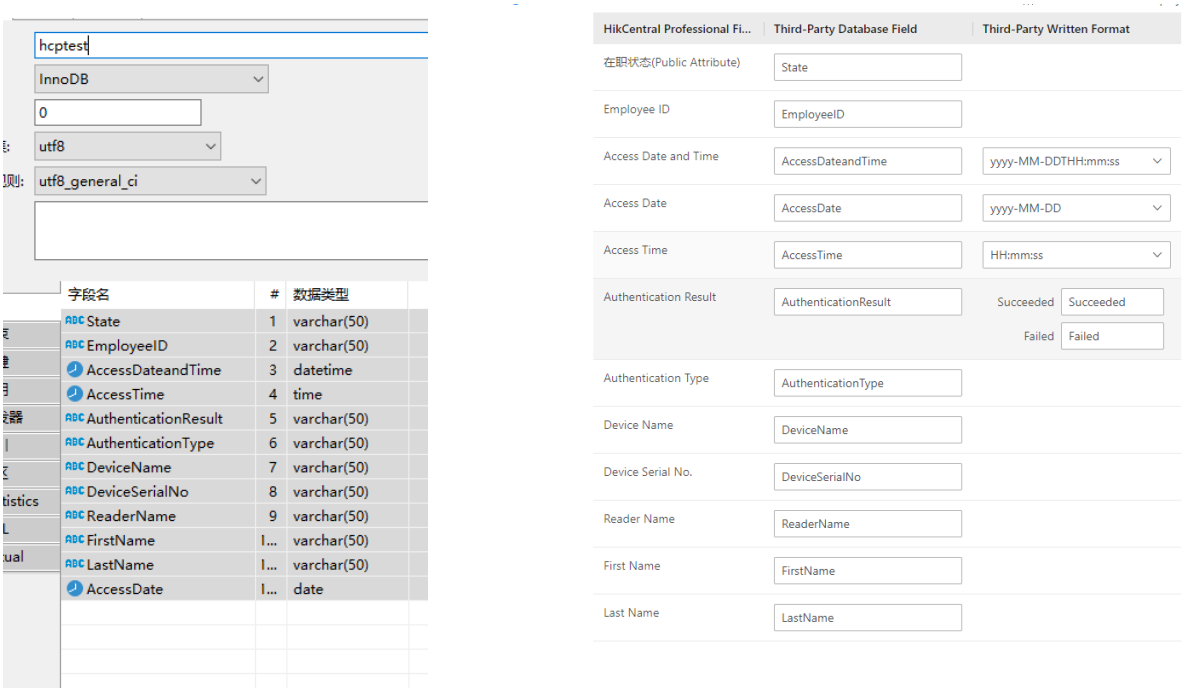
4.Three-party database synchronization configuration

Select MySQL type in Database Type, and enter the database IP address, port (3306 by default), database name and user name password; If there are multiple schemas with duplicate table names, please fill in the name of the schema corresponding to the data table in the database mode.

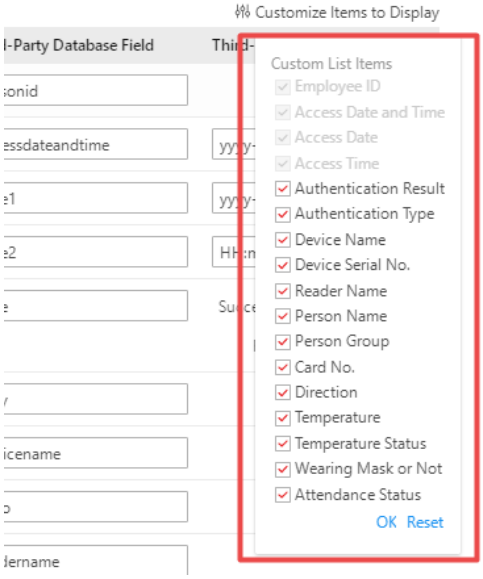


Click "test connection" to check whether the connection status is normal.

The fields filled in the third-party database table should correspond to the fields in the third-party data table one by one.



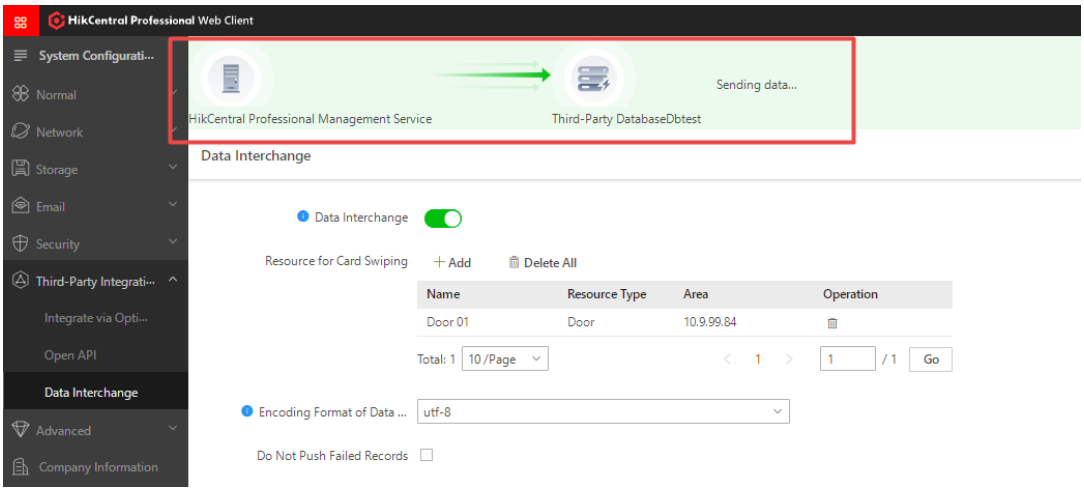
If there are unnecessary fields, you can check Cancel in Customize Items to Display



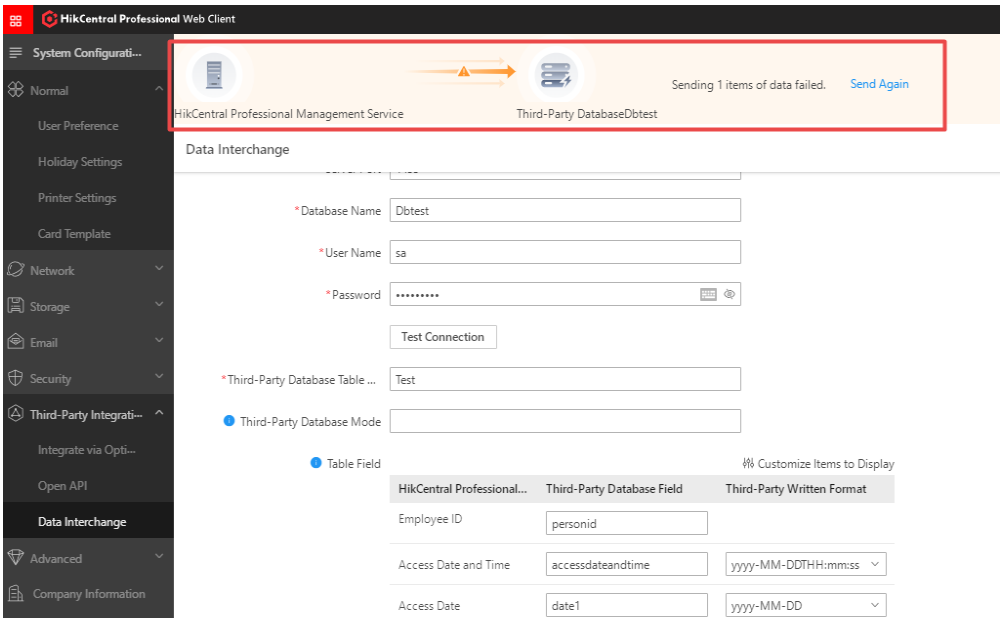
Note: The Attendance Status field is valid when the relevant access control point has been configured as the attendance point and the corresponding attendance

rules, and the corresponding attendance status has been configured on the device side.

After click “Save”, you can see that the word "sending data" normally appears above.



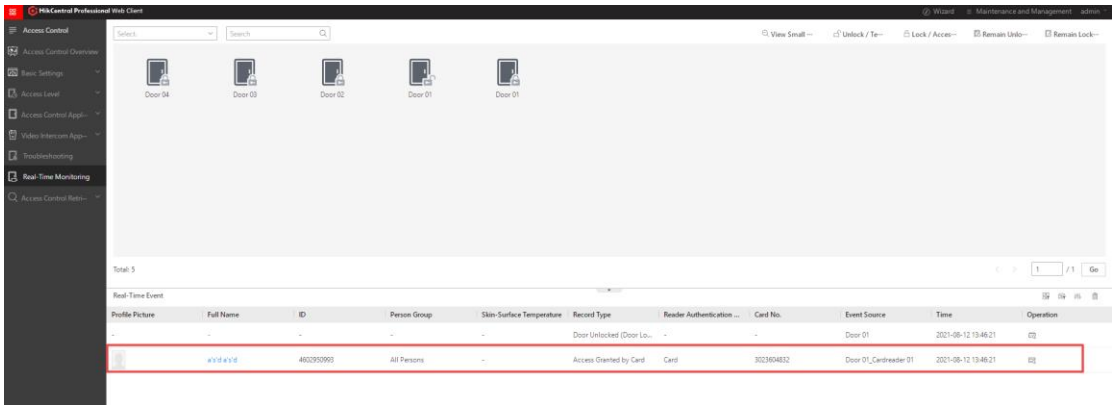
Note: If the push data fails, you can click "send again" above to return the data in time.



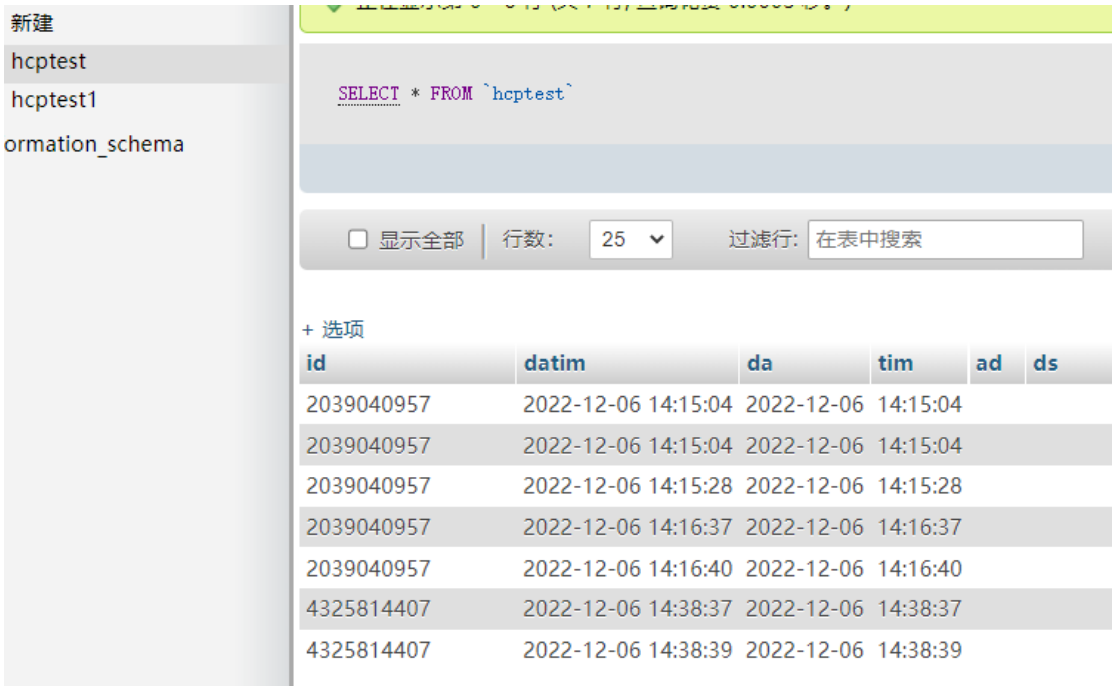
4.3 Data transmission effect display

First, generate the corresponding access control record at the configured access

control point:



Data can be viewed in the third-party database:



5. Common issue:

5-1.HCP 2.3.0 Known Issue

5-2.Database connection failed

5-3. HCP log troubleshooting

The logs related to the third-party database:

DBLayer.log，It mainly prints the database connection exception information, which will not be returned to VSM。

Path：C:\Program Files (x86)\HikCentral\VSM Servers\Log\SYS\platform

DataDock.log ，Log records on third-party database transfer and database docking.

Path：C:\Program Files (x86)\HikCentral\VSM Servers\Log\SYS\integration.s

It is recommended to adjust the log level to DEBUG mode preferentially，enter the SYS.log4cxx.properties file with the path of C:\Program Files (x86)\HikCentral\VSM Servers\SYS\META_INFO\SYS\runtime_script, and modify the corresponding log file from INFO to DEBUG.

```
log4j.additivity.FocSignAccess=false##########################################################################################################
#Integration
log4j.logger.Integration=INFO, Integration
log4j.appender.Integration=org.apache.log4j.RollingFileAppender
log4j.appender.Integration.Append=true
log4j.appender.Integration.File=../Log/SYS/integration.s/integration.log
log4j.appender.Integration.MaxFileSize=40MB
log4j.appender.Integration.MaxBackupIndex=5
log4j.appender.Integration.layout=org.apache.log4j.PatternLayout
log4j.appender.Integration.layout.ConversionPattern=[%d][%c][%p]%m[%t]%n
log4j.additivity.Integration=false

#DataDock                                DEBUG
log4j.logger.integration.s.DataDock=INFO, integration.s.DataDock
log4j.appender.integration.s.DataDock=org.apache.log4j.RollingFileAppender
log4j.appender.integration.s.DataDock.Append=true
log4j.appender.integration.s.DataDock.File=../Log/SYS/integration.s./DataDock.log
log4j.appender.integration.s.DataDock.MaxFileSize=40MB
log4j.appender.integration.s.DataDock.MaxBackupIndex=5
log4j.appender.integration.s.DataDock.layout=org.apache.log4j.PatternLayout
log4j.appender.integration.s.DataDock.layout.ConversionPattern=[%d][%c][%p]%m[%t]%n
log4j.additivity.DataDock=false
##########################################################################################################
#Root
log4j.rootLogger=INFO, R

log4j.appender.R=org.apache.log4j.RollingFileAppender
log4j.appender.R.Append=true
log4j.appender.R.File=../Log/SYS/default.log
log4j.appender.R.MaxFileSize=40MB
log4j.appender.R.MaxBackupIndex=5
log4j.appender.R.layout=org.apache.log4j.PatternLayout
log4j.appender.R.layout.ConversionPattern=[%d][%c][%p]%m[%t]%n

#AIService
log4j.logger.AIService=INFO, AIService
log4j.appender.AIService=org.apache.log4j.RollingFileAppender
```

The DBLayer log can see specific interaction records, such as：

```
[2021-07-28 13:32:11.000][DBLayer][ERROR][db_layer::CDBManager::RefershInitConn][CDBManager::RefershInitConn] TestConn() or TestQuery() Failed.[DBManager.cpp(542)][0x00001da8]
[2021-07-28 13:32:11.000][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_thread_ Started.[DBManager.cpp(75)][0x00001da8]
[2021-07-28 13:32:11.000][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_check_thread_ Started.[DBManager.cpp(87)][0x00001da8]
[2021-07-28 13:32:11.000][DBLayer][INFO][db_layer::CDBLayerConn::Init][CDBLayerConn::Init] New CDBLayer Finished.[DBLayerConn.cpp(171)][0x00001da8]
[2021-07-28 13:32:11.000][DBLayer][ERROR][db_layer::CDBManager::ApplyConn][CDBManager::ApplyConn] list_free_ is Empty, map_busy_ is Empty, list_block_ size is 6[DBManager.cpp(301)][0x00001da8]
[2021-07-28 13:32:11.000][DBLayer][ERROR][db_layer::CDBLayerConn::Init][CDBLayerConn::Init] ptr_dblayer->ApplyConn() Failed.[DBLayerConn.cpp(204)][0x00001da8]
[2021-07-28 13:32:16.012][DBLayer][INFO][db_layer::CDBLayerConn::GetNewInstanceID][CDBLayerConn::GetNewInstanceID] Instance ID : 11.[DBLayerConn.cpp(317)][0x00001da8]
[2021-07-28 13:32:17.758][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_thread_ Started.[DBManager.cpp(75)][0x00001da8]
[2021-07-28 13:32:17.759][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_check_thread_ Started.[DBManager.cpp(87)][0x00001da8]
[2021-07-28 13:32:17.759][DBLayer][INFO][db_layer::CDBLayerConn::Init][CDBLayerConn::Init] New CDBLayer Finished.[DBLayerConn.cpp(171)][0x00001da8]
[2021-07-28 13:32:28.582][DBLayer][ERROR][db_layer::CDBLayerConn::ApplyConn][CDBLayerConn::ApplyConn] Can Not Find dblayer, instance : 1.[DBLayerConn.cpp(239)][0x00002344]
[2021-07-28 13:32:31.617][DBLayer][INFO][db_layer::CDBLayerConn::GetNewInstanceID][CDBLayerConn::GetNewInstanceID] Instance ID : 12.[DBLayerConn.cpp(317)][0x00002344]
[2021-07-28 13:32:33.298][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_thread_ Started.[DBManager.cpp(75)][0x00002344]
[2021-07-28 13:32:33.299][DBLayer][INFO][db_layer::CDBManager::CDBManager][CDBManager::CDBManager] dbman_check_thread_ Started.[DBManager.cpp(87)][0x00002344]
[2021-07-28 13:32:33.299][DBLayer][INFO][db_layer::CDBLayerConn::Init][CDBLayerConn::Init] New CDBLayer Finished.[DBLayerConn.cpp(171)][0x00002344]
[2021-07-28 13:32:33.961][DBLayer][ERROR][db_layer::CDBLayerConn::ApplyConn][CDBLayerConn::ApplyConn] Can Not Find dblayer, instance : 1.[DBLayerConn.cpp(239)][0x00002344]
```

Datadock checks the connection information and the third-party database error

code, such as：

```
Line 254: [2021-08-11 15:10:37.490][integration.s.DataDock][ERROR][integration::CThirdDbMgr::PutAttendanceThirdDbConfigActions]There's no available third-db connection, Init third-db connection Fails![..\src\DataIntegration\ThirdDB\
Line 259: [2021-08-11 15:37:51.763][integration.s.DataDock][ERROR][integration::CIntegrationDBConn::InitDBLayerConn]get product_db_info failed.[..\src\Common\IntegrationDBConn.cpp(35)][0x00004b04]
Line 260: [2021-08-11 15:37:51.763][integration.s.DataDock][ERROR][integration::CThirdDbMgr::PutAttendanceThirdDbConfigActions]There's no available third-db connection, Init third-db connection Fails![..\src\DataIntegration\ThirdDB\
Line 344: [2021-08-12 14:39:34.673][integration.s.DataDock][ERROR][integration::CThirdDbMgr::PutAttendanceThirdDbConfigActions]Reset the third-db connection Fails![..\src\DataIntegration\ThirdDB\ThirdDbMgr.cpp(310)][0x00004cd4]
```

When an sql statement fails to transfer, you can copy the insert statement and try it locally in the third-party database.

```
rt] failed, errorcode:0, errorinfo:IDispatch error #3092, Sql:INSERT INTO [dbtable] ( [personid] ,[accessandtime] ,[date1] ,[date2] ,[devicename] ,[personname] ,[cardno] ,[temperature] ,[mask]  ) VALUES ( '460295
rt] failed, errorcode:0, errorinfo:IDispatch error #3092, Sql:INSERT INTO [dbtable] ( [personid] ,[accessandtime] ,[date1] ,[date2] ,[devicename] ,[personname] ,[cardno] ,[temperature] ,[mask]  ) VALUES ( '460295
rt] failed, errorcode:0, errorinfo:IDispatch error #3092, Sql:INSERT INTO [dbtable] ( [personid] ,[accessandtime] ,[date1] ,[date2] ,[devicename] ,[personname] ,[cardno] ,[temperature] ,[mask]  ) VALUES ( '460295
rt] failed, errorcode:0, errorinfo:IDispatch error #3092, Sql:INSERT INTO [dbtable] ( [personid] ,[accessandtime] ,[date1] ,[date2] ,[devicename] ,[personname] ,[cardno] ,[temperature] ,[mask]  ) VALUES ( '460295
```

5-4. Common SQL Server error codes that cannot synchronize data

Error code：3092

Reason：The name or field of the data table filled in on the platform does not match that on the third-party database, resulting in execution failure. Re check the filled information.

Error code：3081

Reason: The database user filled in the HCP does not have public and sysadmin permissions. Please refer to Section 3.4 for specific configuration methods.

Error code：3159

Reason: The field size of the HCP transmission exceeds the field length set by the third-party database. Increase the character length of the field on the third-party database.