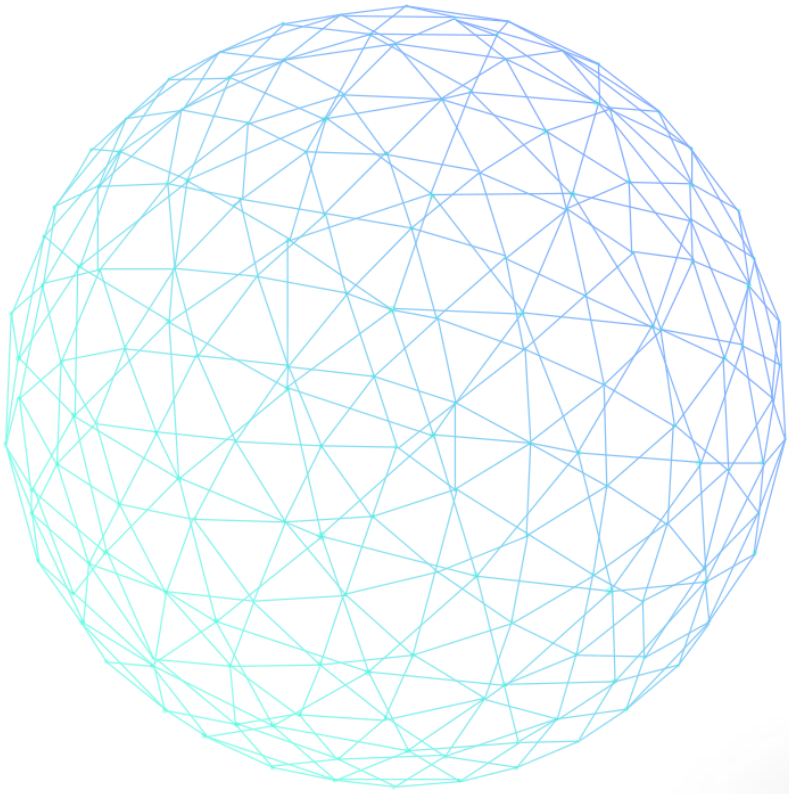
SQLynx
Operation Guide



【Version ： 3.0.0】

Menu

1. Product Introduction

1.1 About SQLynx

SQLynx is a highly secure database management development tool that supports multi-datasource management, such as MySQL, Oracle, PostgreSQL, Hadoop, SQLserver, MongoDB, etc.

It has a complete database management function, including SQL query, user query history record, data import and export, test data generation, SQL statement generation, table structure comparison, etc.

SQLynx is compatible with Windows, MacOS, and Linux operating systems, providing traditional desktop client architecture and web-end synchronous use; it adopts a graphical interface design, which is simple and easy to use; the software does not need to be installed and supports remote access.

For software details and download, please visit official website: https://www.sqlynx.com .

1.2 Product Versions

No.	Product Comparison		SQLynx Pro	SQLynx Enterprise	SQLynx Premium
1	Applicable Users		For Individual Users	For Teams & Departments	For Enterprise
2	Client	Desktop	√	Unsupported	Unsupported
		WEB	√	√	√
3	Function	Data Operation	√	√	√
		Operation Management	√	√	√
		Risk Configuration	Unsupported	Unsupported	√
		Role Management	Unsupported	√	√
		Approval Management	Unsupported	Unsupported	√
		Multi-user Management	Unsupported	√	√
		User Behavior Log	√	√	√
		User Behavior Audit and Analysis	√	√	√
		Distributed Deployment	Unsupported	Unsupported	√

1.3 Product Support Matrix

1.3.1 System Requirements

No.	OS	Version	SQLynx Pro	SQLynx Enterprise	SQLynx Premium
1	Windows	Windows10/11	√	√	√
		Windows7/8/8.1	Web-Client Only	√	√
		Server2012/2016/2019/2022	Unsupported	√	√
2	MacOS	Mainstream version	√	Remote Access Only	
3	Linux	Mainstream version	√	√	√

***Note**：The JDK included in the SQLynx package only supports AMD64(x86) architecture.，If your server uses a different architecture, opt for a package without JDK and employ your own version of JDK.

1.3.2 Data Source

No.	Data Source	Version	SQLynx Pro	SQLynx Enterprise	SQLynx Premium
1	Oracle	11c/11g or later	√	√	√
2	MySQL	5.6/5.7/8.0 or later	√	√	√
3	PostgreSQL	9.0 or later	√	√	√
4	SQL Server	2008/2012/2016/2019 or later	√	√	√
5	SQLite		√	√	√
6	MongoDB	4.0 or later	√	√	√
7	Impala		√	√	√
8	Hive	2.0/3.1 or later	Unsupported	Unsupported	√

1.4 End User License Agreement

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2. SQLynx Pro

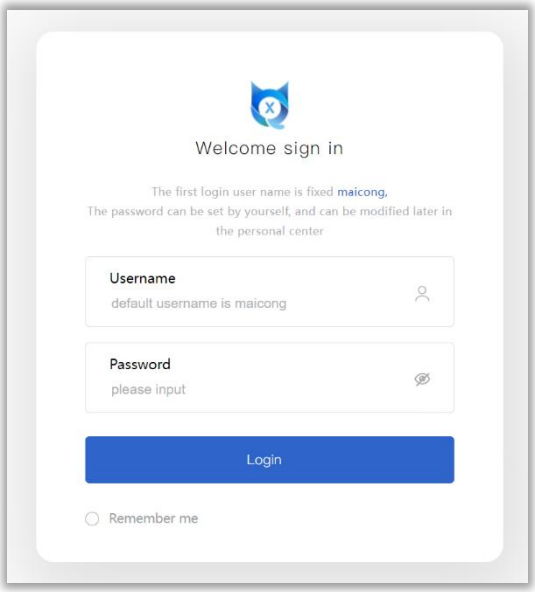
SQLynx Pro is intended for individual users.

2.1 Startup

After downloading the SQLynx software package, extract it to a local directory.

Upon initial login, the username is "maicong" and the password is set by the user input.

2.1.1 Windows Version



A. Launching via an executable file:

1. Open the SQLynx folder and double-click the "sqlynx.exe" file.
2. The SQLynx login page of the desktop client will be displayed.
3. Log in with your username and password.
4. After logging in, users may switch between using the desktop or the WEB client.
5. Only compatible with Windows 10/11.

B. Launching via Command-line:

1. Open the SQLynx folder and double-click the "sqlynx.bat" file.
2. The SQLynx login page will be displayed in the web browse.
3. Log in with your username and password.
4. After logging in, only the WEB client is available.
5. Compatible with all versions of Windows and WinServer.

2.1.2 Mac OS Version

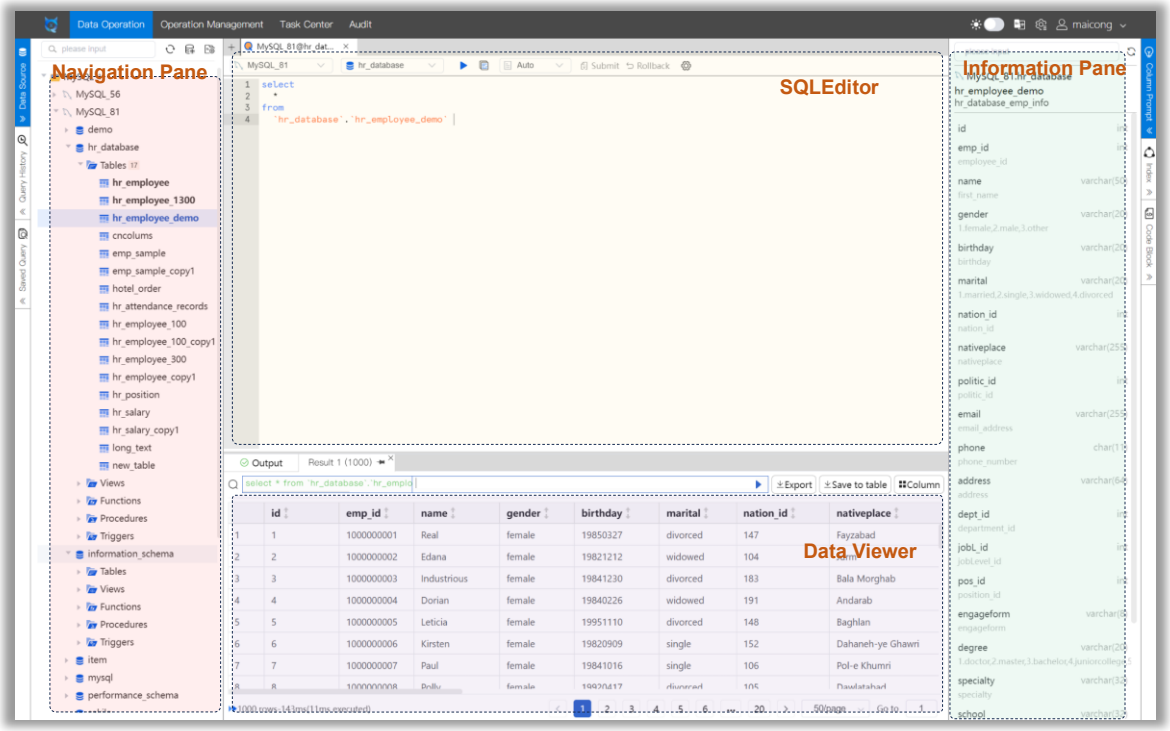
1. Double-click the "sqlynx.dmg" file.
2. Go to System Settings > Privacy & Security>General tab, and click "Allow" button for SQLynx.
3. The SQLynx login page of the desktop client will be displayed.
4. Enter your username and password to log in.
5. After logging in, users may switch between using the desktop or the WEB client.

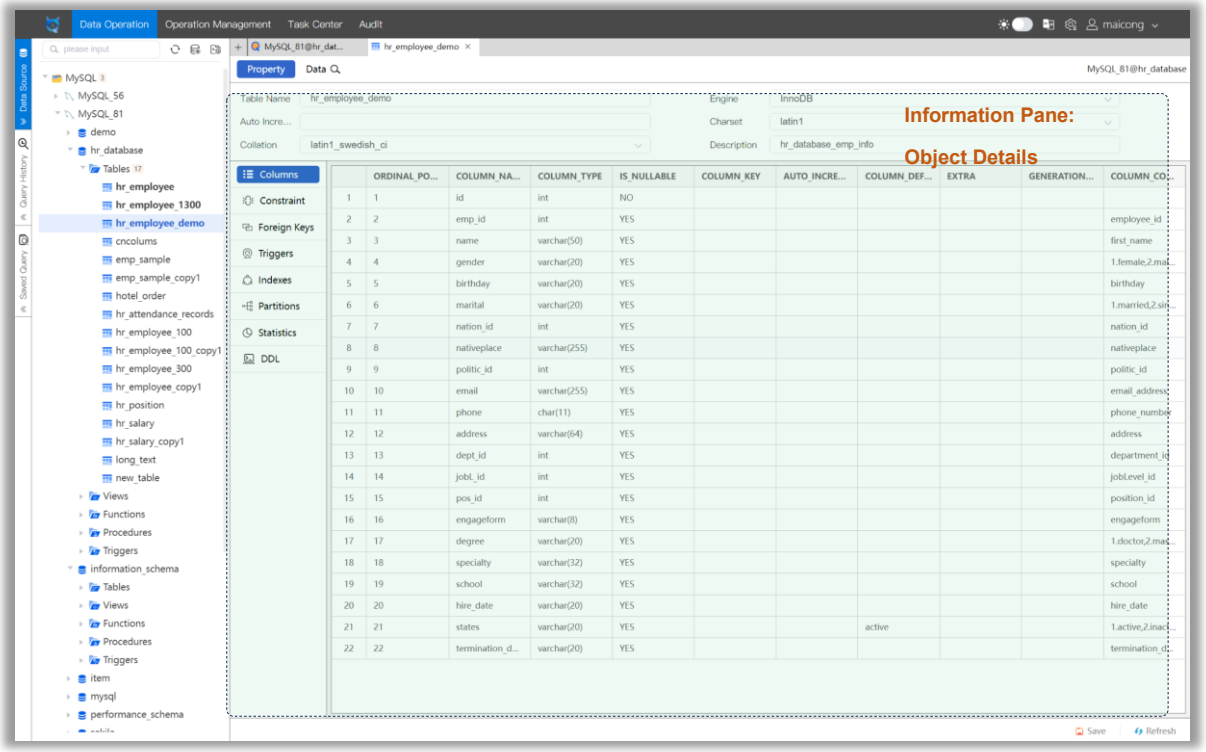
2.1.3 Linux Version

1. Navigate to the script directory.
2. Run the command "./maicong-sqlynx.sh".
3. Enter the command "sh maicong-sqlynx.sh start" and hit Enter.
4. Open a browser and go to http://<ip address>:18888 to access the SQLynx login page.
5. Enter your username and password to log in.
6. After logging in, you can only use the WEB client.

2.2 Data Operation

The data operation module of SQLynx is composed of several areas: the navigation pane, information pane, SQL editor, and data viewer.



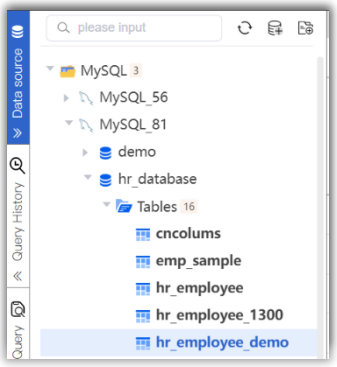


2.2.1 Navigation Pane

The navigation pane is located on the left side of the main window, featuring a tree structure.

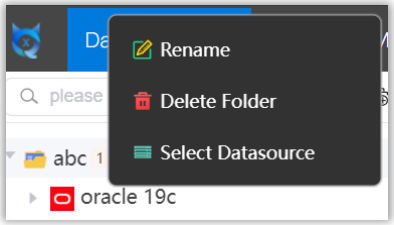
It allows browsing information of all successfully added data sources, databases, and database objects.

The related operational functions are accessible through the right-click context menu of the mouse.



#	Location	Function
1	please input	Search for database names, object names ***Supports fuzzy search; case-sensitive。**
2		Refresh
3		Add data source (refer to steps in "System Settings - Data Configuration")
4		Create folder

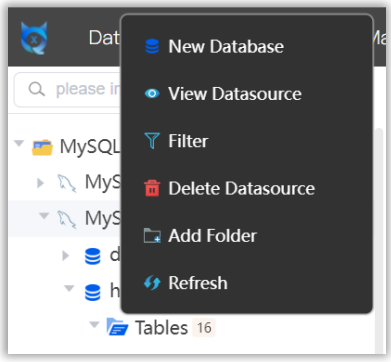
Right-click on the folder, the following menu appears.



#	Function	Description
1	Rename	Rename the currently selected folder
2	Delete Folder	Delete the currently selected folder ***Only delete the folder, the data sources within it will not be deleted; after the folder is deleted, data sources will automatically be moved out and returned to the navigation pane。**
3	Select Datasource	Configure the addition and removal of data sources for the currently selected folder

2.2.1.1 Add Database

Right-click on datasource in the navigation pane, and the following menu appears.

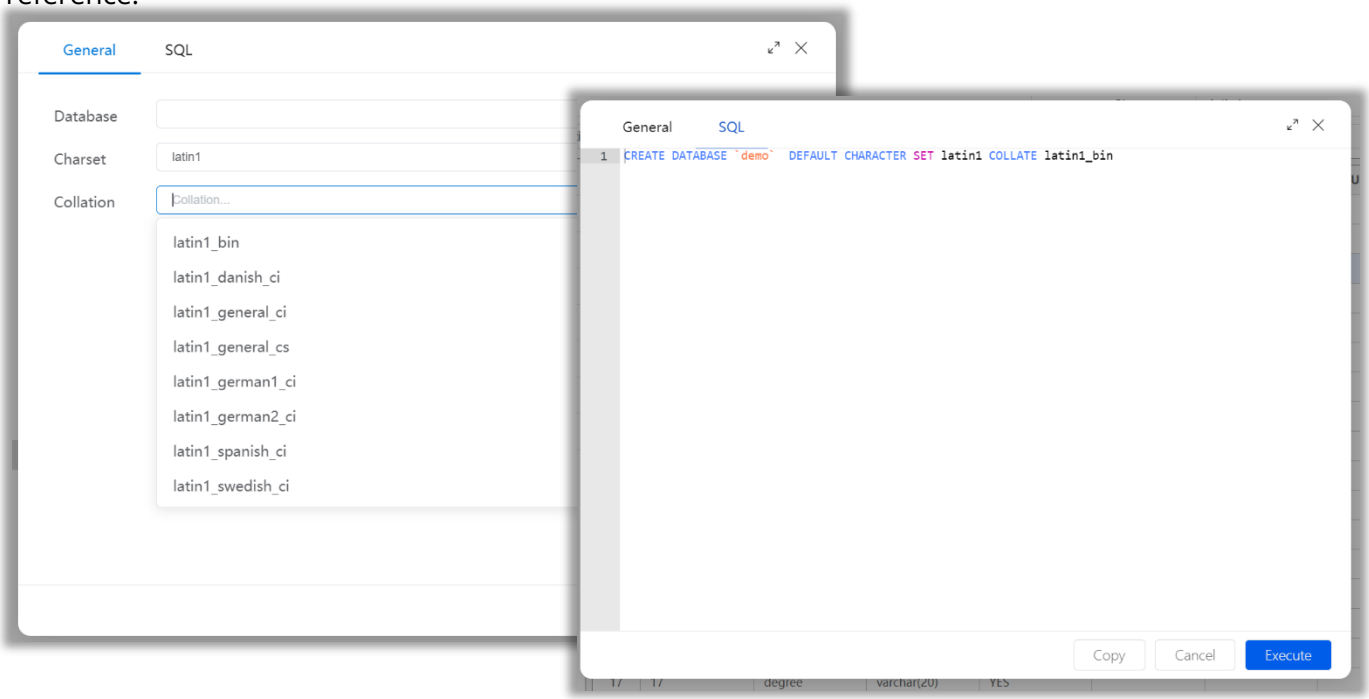


#	Function	Description
1	New Database	Create a new database, with options to set the database name, character set, and collation.
2	View Datasource	View the configuration information of the currently selected data source.
3	Filter	Filter the databases displayed in the current navigation pane.
4	Delete Datasource	Delete the currently selected data source ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
5	Add Folder	Create a new folder
6	Refresh	Refresh

Add Database:

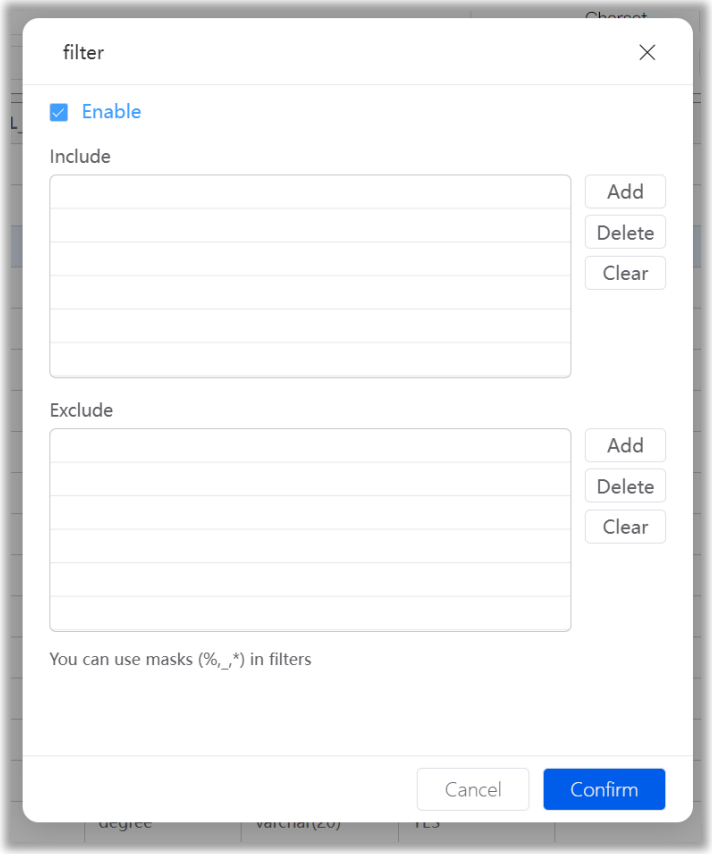
Create a new database and execute the operation after filling out the Database name, character set, and collation rules as required.

The SQL editor on the right will simultaneously display the corresponding SQL statements for reference.



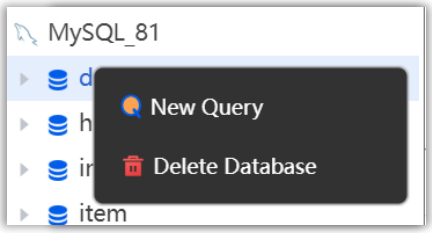
Filter：

You can set filter conditions based on your needs, to include or exclude certain keywords. When performing a fuzzy search, you need to add wildcards.



2.2.1.2 New Query

Expand the data source, right-click on the database name, and the following menu appears.

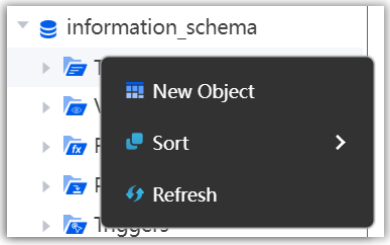


#	Function	Description
1	New Query	The main window switches to the SQL editor, with the default path being the path of the currently selected database.
2	Delete Database	Delete the currently selected database ***The deletion is irreversible once confirmed, please proceed with caution after verification.**

2.2.1.3 New Object

a. New Table

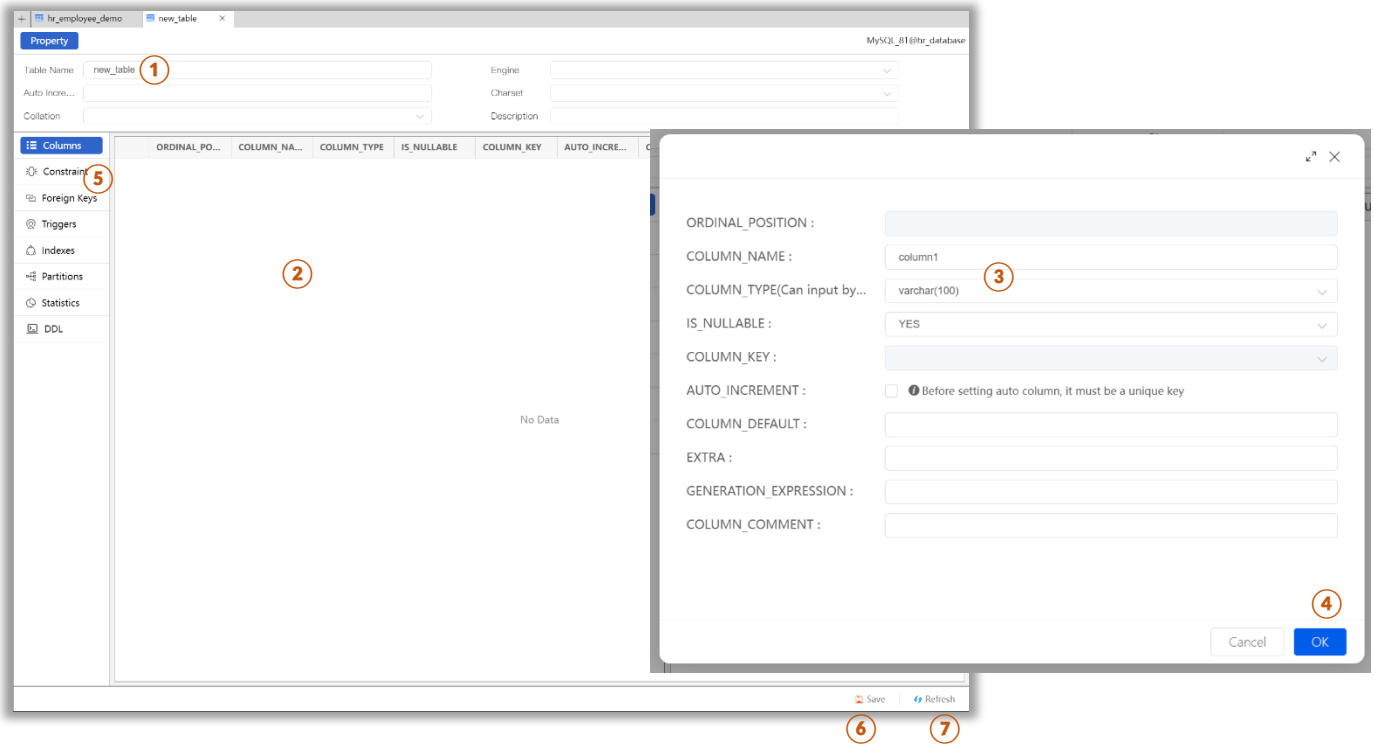
1. Expand the database, right-click on the " Tables " icon, and the following menu appears.



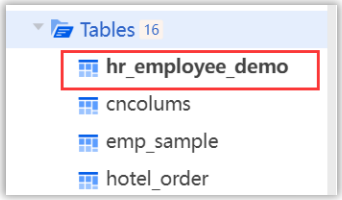
#	Function	Description
1	New Object	The main window becomes the object detail pane. where a new table is created. You can modify the table's properties on this page and execute these changes.
2	Sort	Sort all tables in the current database: By Intelligent Sorting*, By Weight, By Count, By Time, By First Letter.
3	Refresh	Refresh

2. Create a New Table

- Click on "**New Object**".
- Set the basic properties of the table in the object detail pane: such as Table Name, Character Set, Collation, and Description.
- Under the “Columns” tab, right-click on the blank area of the data detail box to bring up the context menu, and click “Add”.
- In the popup window, configure the column information to be added and click OK; repeat the third step until you have added all the required columns.
- Under the "Constraints" tab, right-click to bring up the context menu and click “Add” to set a primary key for the table, then confirm.
- Click save at the bottom right corner, which opens a popup showing the preview of the SQL statement for creating the table. You can directly click “Execute” to create the table or click “Copy” to save the current statement for further editing in the SQL editor.
- After execution, refresh the database to view the tables or refer to section 2.2.2.1 for steps on adding data post table creation.

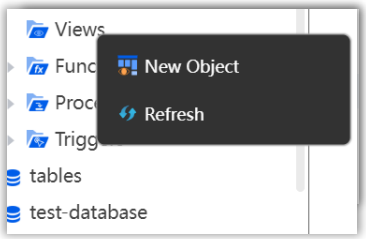


3. * Intelligent Sorting：By default, the system employs intelligent sorting to automatically prioritize and bold the tables that the user frequently operates, facilitating quick and easy access.



b. New View

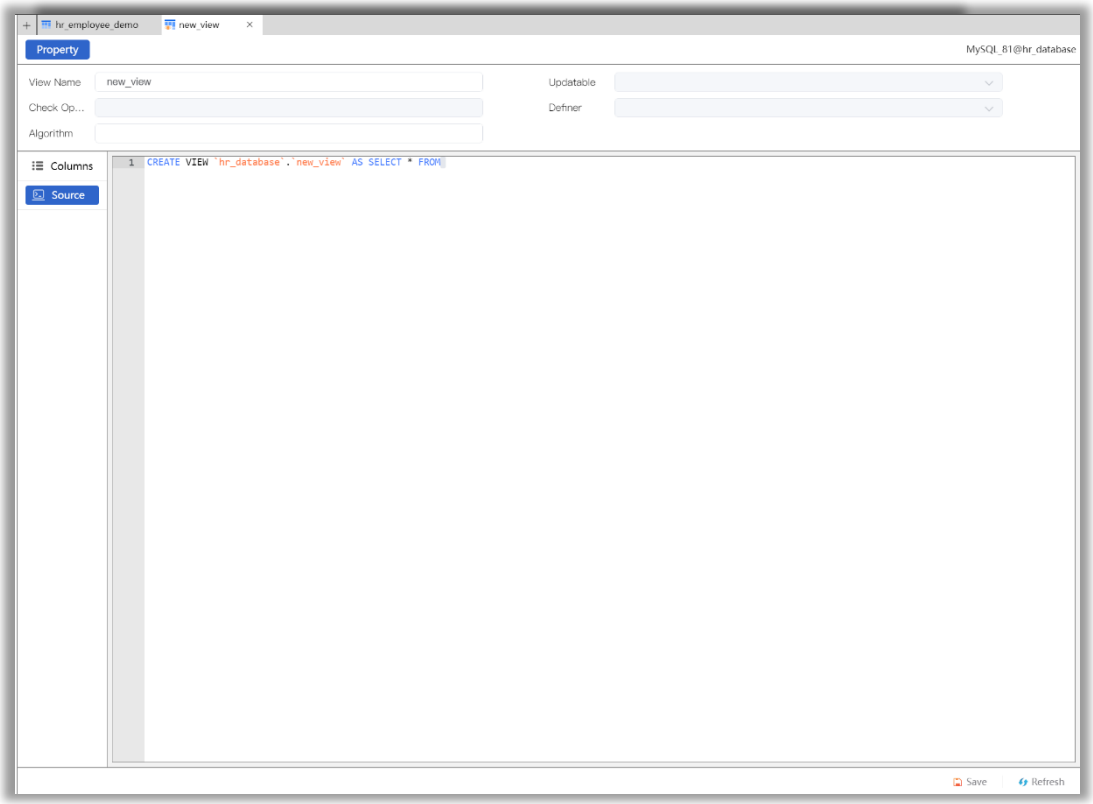
1. Expand the database, right-click on the " Views " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new view.
2	Refresh	Refresh

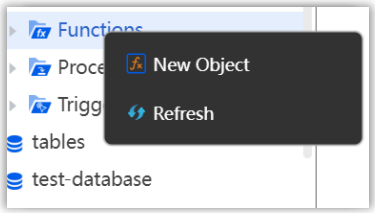
2. Create New View

- Click on "**Create Object**"
- Set the basic properties of the view in the object detail pane: View Name, Algorithm, etc.
- Write the SQL statement under the "Source" tab to create it, then click save and refresh.



c. New Function

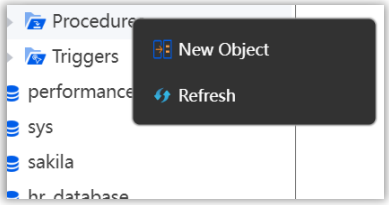
1. Expand the database, right-click on the " Functions " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new function.
2	Refresh	Refresh

d. New Procedure

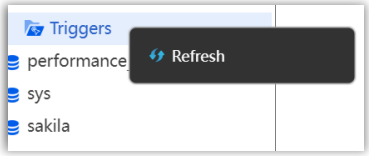
1. Expand the database, right-click on the " Procedures " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new procedure.
2	Refresh	Refresh

e. Triggers

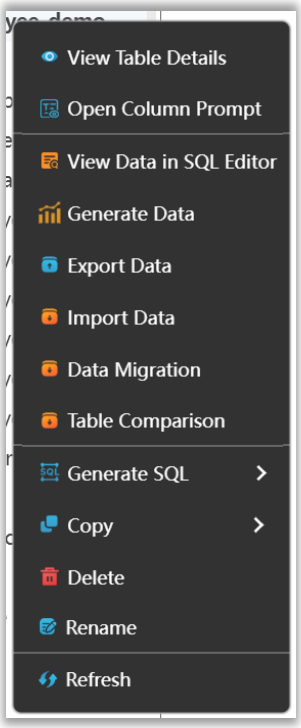
1. Expand the database, right-click on the " Triggers " icon, and the following menu appears.



#	Function	Description
1	Refresh	Refresh

2.2.1.4 Object Operations

a. Table

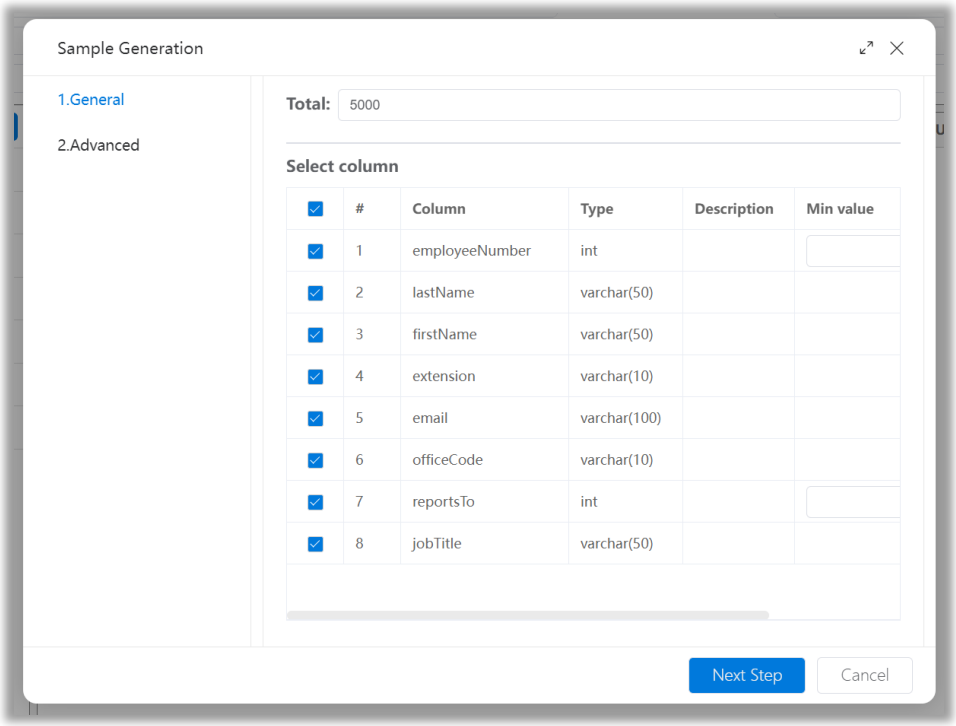


#	Function	Description
1	View Table Details	View the details of the currently selected table: the main window displays an object detail pane where you can view table properties and table data (for details, refer to section 2.2.2.1 Object Detail Pane).
2	Open Column Prompt	When open the query window, click on the menu function or double-click the table name to display prompts on the right screen (for details, refer to section 2.2.2.2 Prompt Pane).
3	View Data in SQL Editor	Automatically generate the statement "SELECT * FROM current table" and execute the query with the SQL editor (for SQL editor, refer to section 2.2.3 Data Operations - SQL Editor).
4	Generate Data	Generate test data with the options to replace or append.
5	Export Data	Export data to local storage, with options for CSV, Excel, or SQL file formats.
6	Import Data	Import CSV or Excel files from your local machine into the selected table.
7	Data Migration	Migrate data from the selected table to another table.
8	Table Comparison	Compare the structural differences of tables from two identical-type databases.
9	Generate SQL	Automatically generate SQL statements such as select, insert, update, delete, or DDL.
10	Copy	Within the same database, create a duplicate of

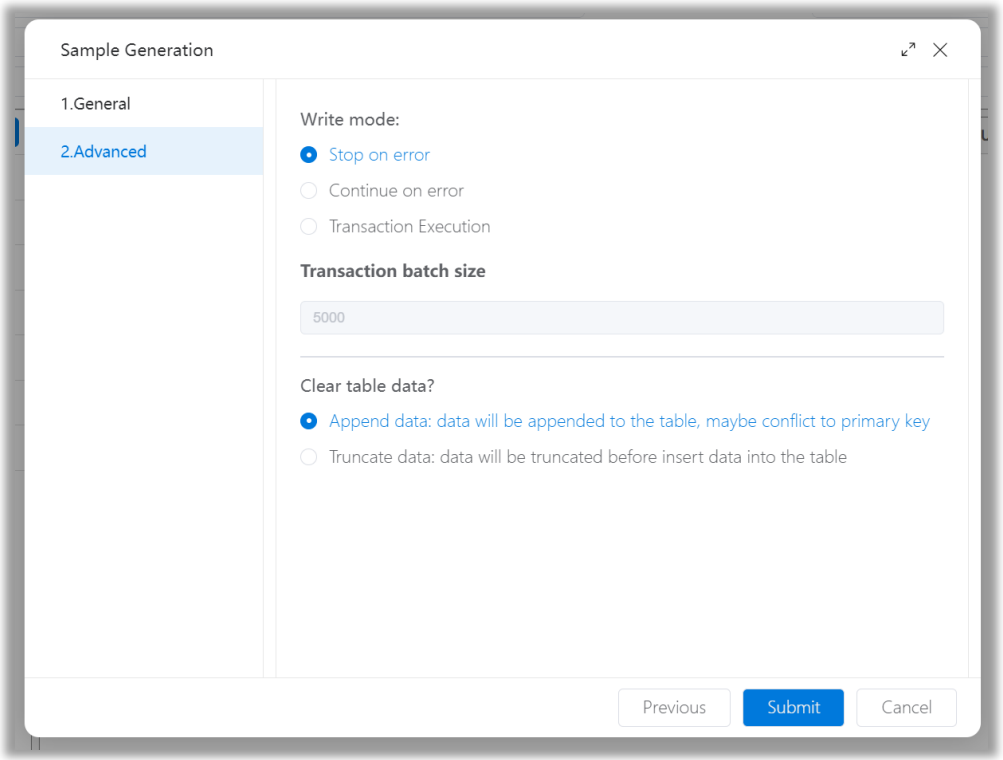
		the currently selected table, copying either "structure and data" or "structure only".
11	Delete	Delete the currently selected table. ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
12	Rename	Rename the currently selected table.
13	Refresh	Refresh

1. Generate Data

Test data can be generated based on table structure. The data generation process operates in the background, and the final results can be viewed in the Task Center under "Generate Data".



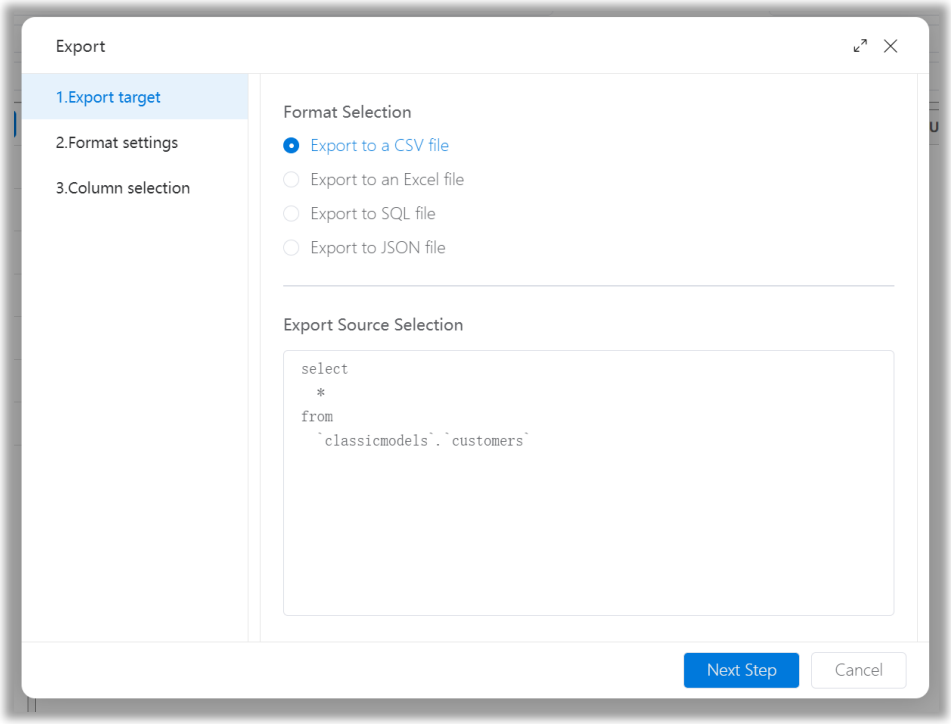
The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.



2. Export Data

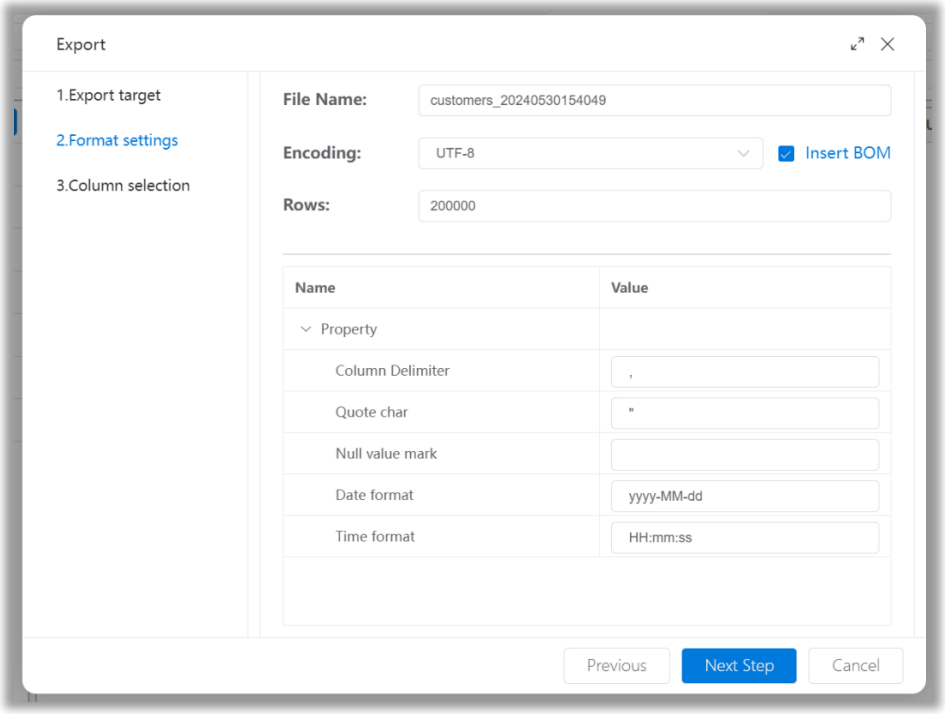
Export the data of the currently selected table to the local system, available in CSV, EXCEL, SQL, and JSON file.

Users can configure the columns of the exported data (all/part), the number of rows, characters, and header format of the export data as needed.



Users can modify the filename, encoding, and number of rows of the exported file as needed.

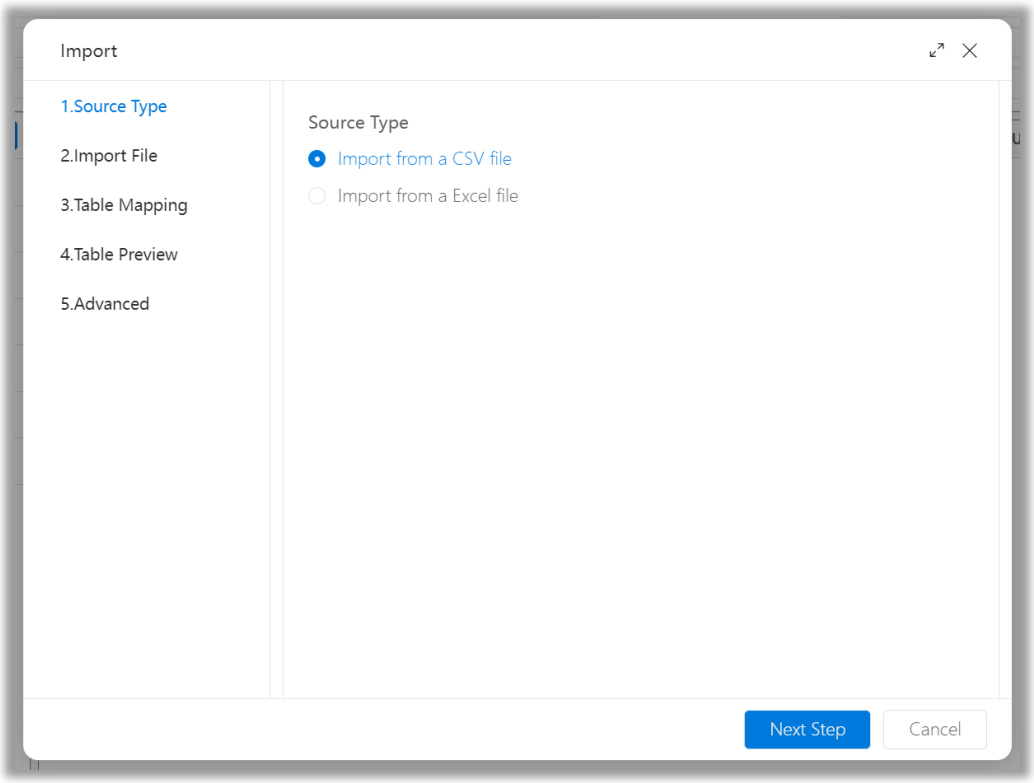
*When the exported file is in CSV format and needs to be opened in Excel, it is recommended to check the "Insert BOM" option for stronger format compatibility.

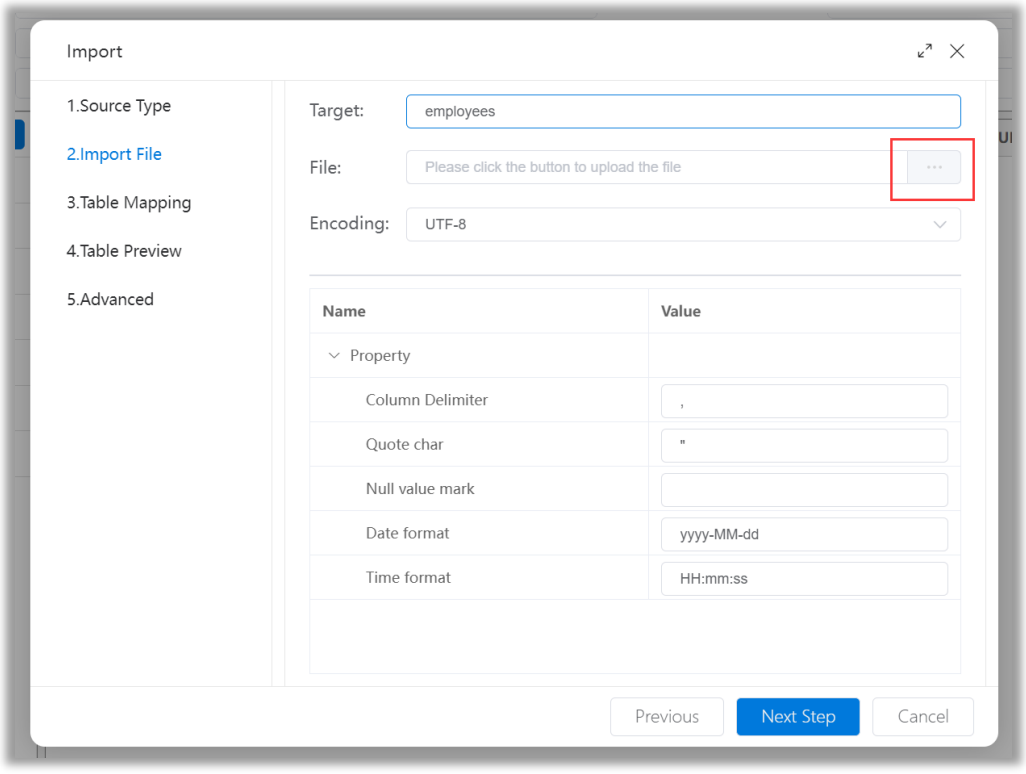


3. Import Data

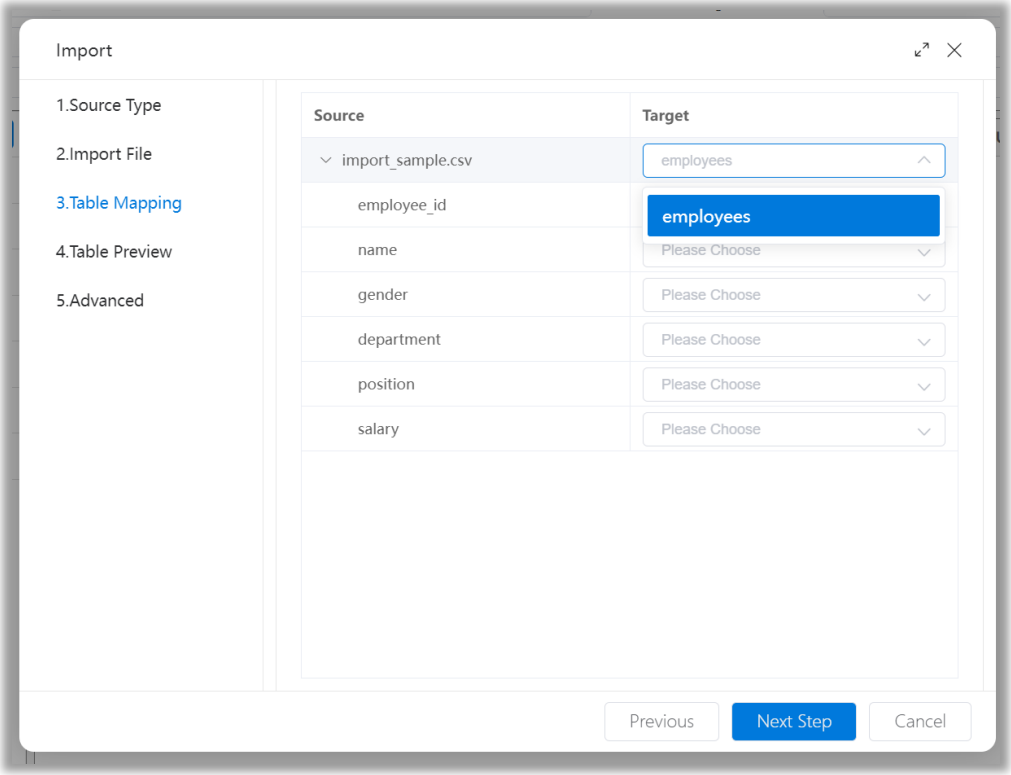
Import a local CSV or Excel file into the currently selected table. (*Importing an SQL file is performed through the context menu in the SQL editor.)

Choose a local CSV or Excel file.

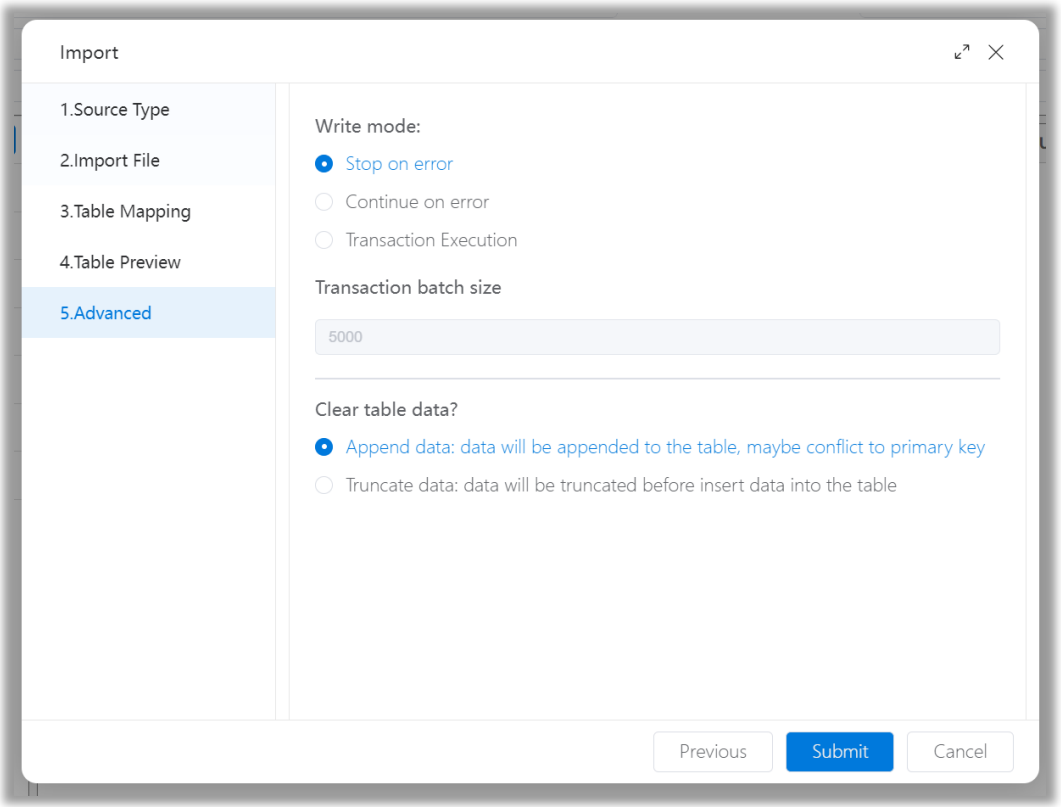




In the "Table Mapping" section, confirm the correspondence between columns.

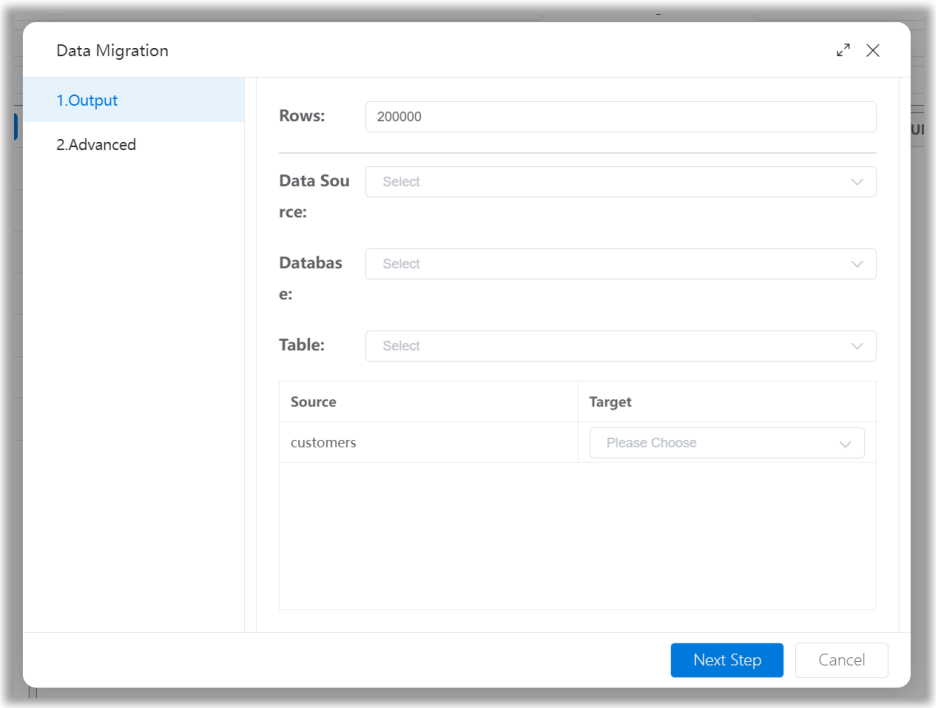


The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

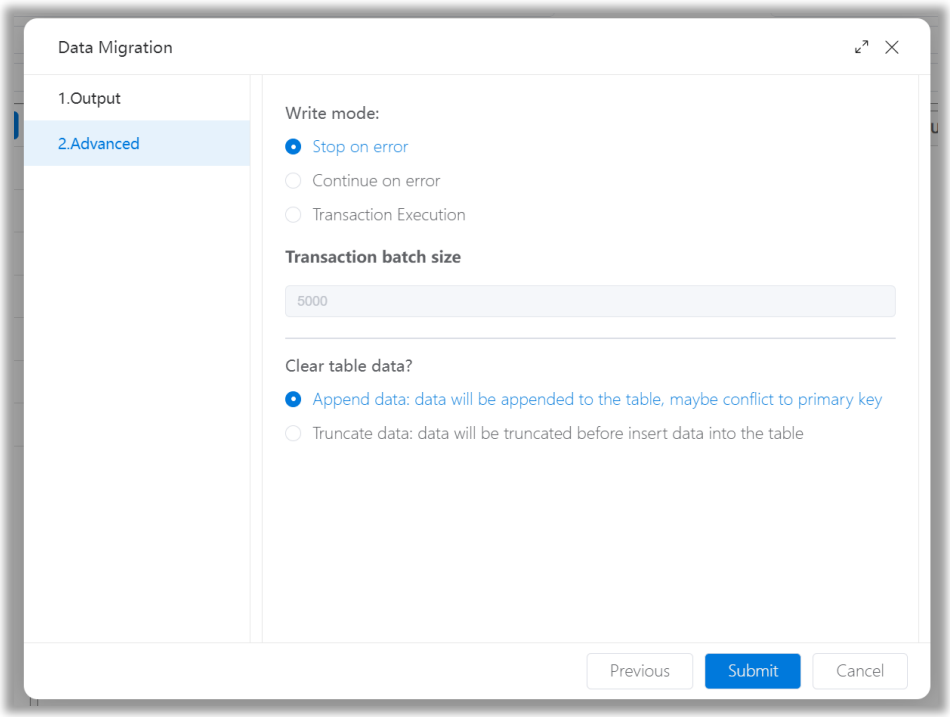


4. Data Migration

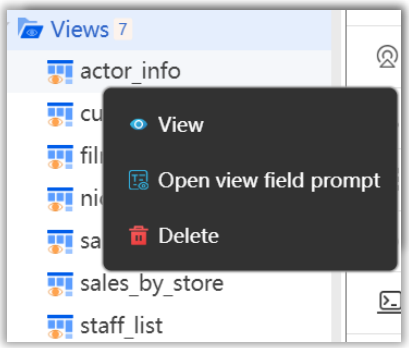
Migrate the data from the currently selected table to another table, with support for transaction execution.



The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

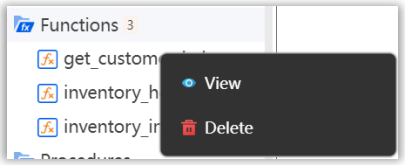


b. View



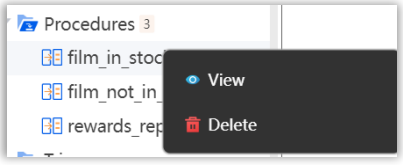
#	Function	Description
1	View	View the details of the currently selected view. The main window will display the object details pane, where you can view the properties and data of the view.
2	Open view column prompt	When open the query window, clicking on the menu function or double-clicking on the current view name will display prompt pane on the right screen.
3	Delete	Delete the currently selected view.

c. Function



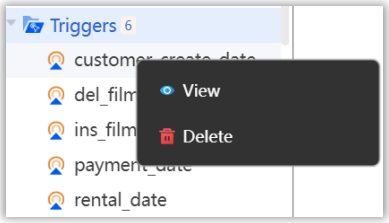
#	Function	Description
1	View	View the details of the currently selected function. The main window will display the object details pane, where you can view the properties of the function.
2	Delete	Delete the currently selected function.

d. Procedure



#	Function	Description
1	View	View the details of the currently selected procedure. The main window will display the object details pane, where you can view the properties of the procedure.
2	Delete	Delete the currently selected procedure.

e. Trigger

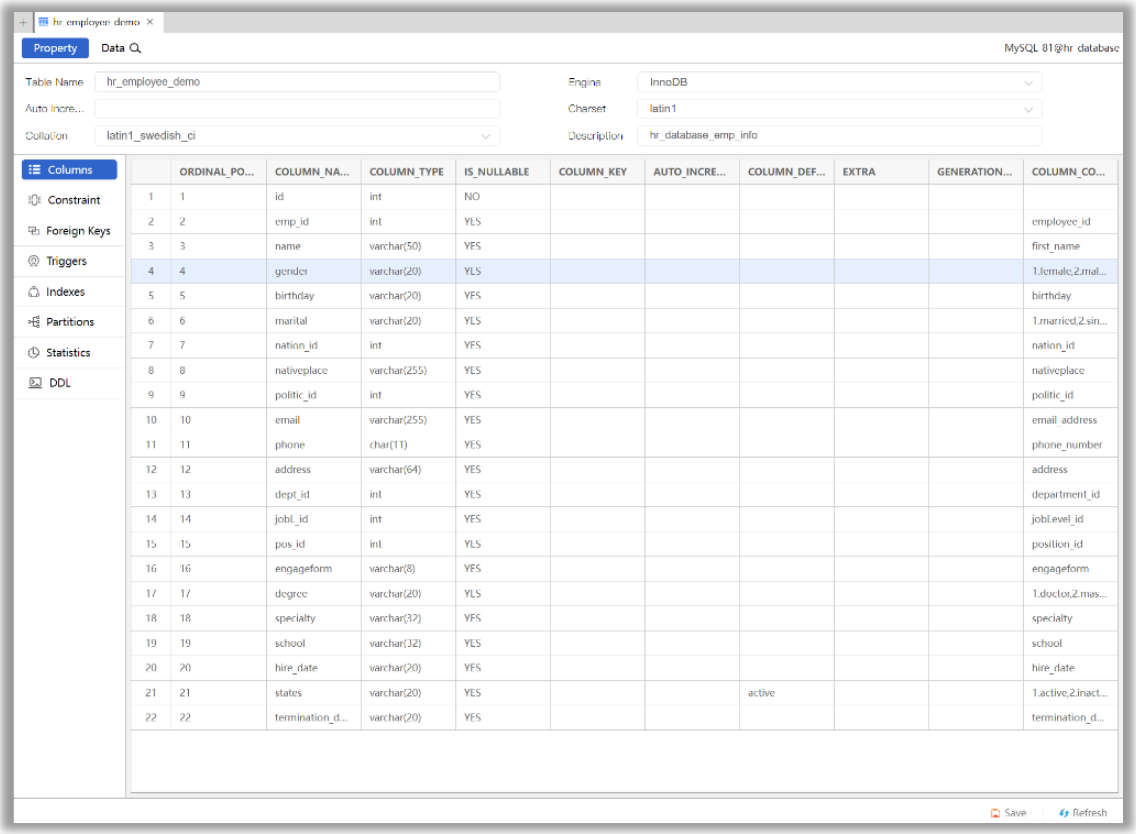


#	Function	Description
1	View	View the details of the currently selected trigger. The main window will display the object details pane, where you can view the properties of the trigger.
2	Delete	Delete the currently selected trigger.

2.2.2 Information Pane

2.2.2.1 Object Details Pane

Located in the middle of the main window, this is where detailed information about objects can be displayed. The object details pane is usually hidden by default, and clicking on any object to select the view function will make it visible.



a. Property

Display detailed properties, settings, and parameters of objects such as tables, views, functions, procedures, triggers, etc.

#	Property	Description	Context Menu	Function
1	Columns	Displays the columns and data structure of the current object.	View	View detailed information of the currently selected column.
			Edit	Modify information of the currently selected column.
			Add	Add a new column.
			Delete	Delete the currently selected column.
			Refresh	Refresh
2	Constraint	Displays primary key information of the current table.	Add	Add a new primary key.
			Refresh	Refresh
3	Foreign Keys	Displays foreign key information of the current table.	N/A	N/A
4	Triggers	Displays trigger information of the current table.	N/A	N/A
5	Indexes	Displays index information of the current table.	Add	Add a new index.
			Refresh	Refresh
6	Partitions	Displays partition information of the current table	N/A	N/A
7	Statistics	Displays statistics information of the current table.	N/A	N/A
8	DDL	Displays DDL information of the current table.	Users can copy the DDL statement and paste it into the SQL editor for use.	

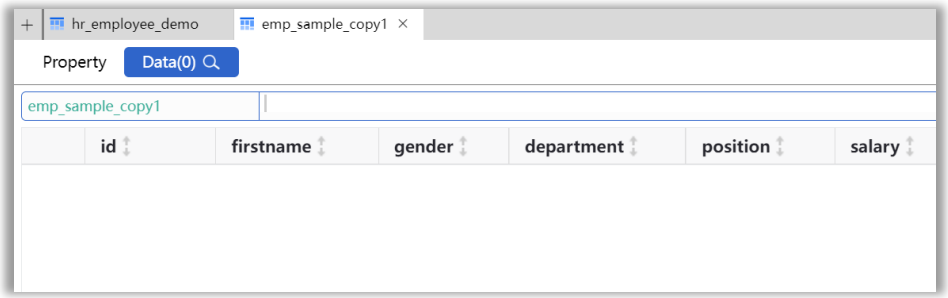
b. Data

Display detailed data for the above objects.

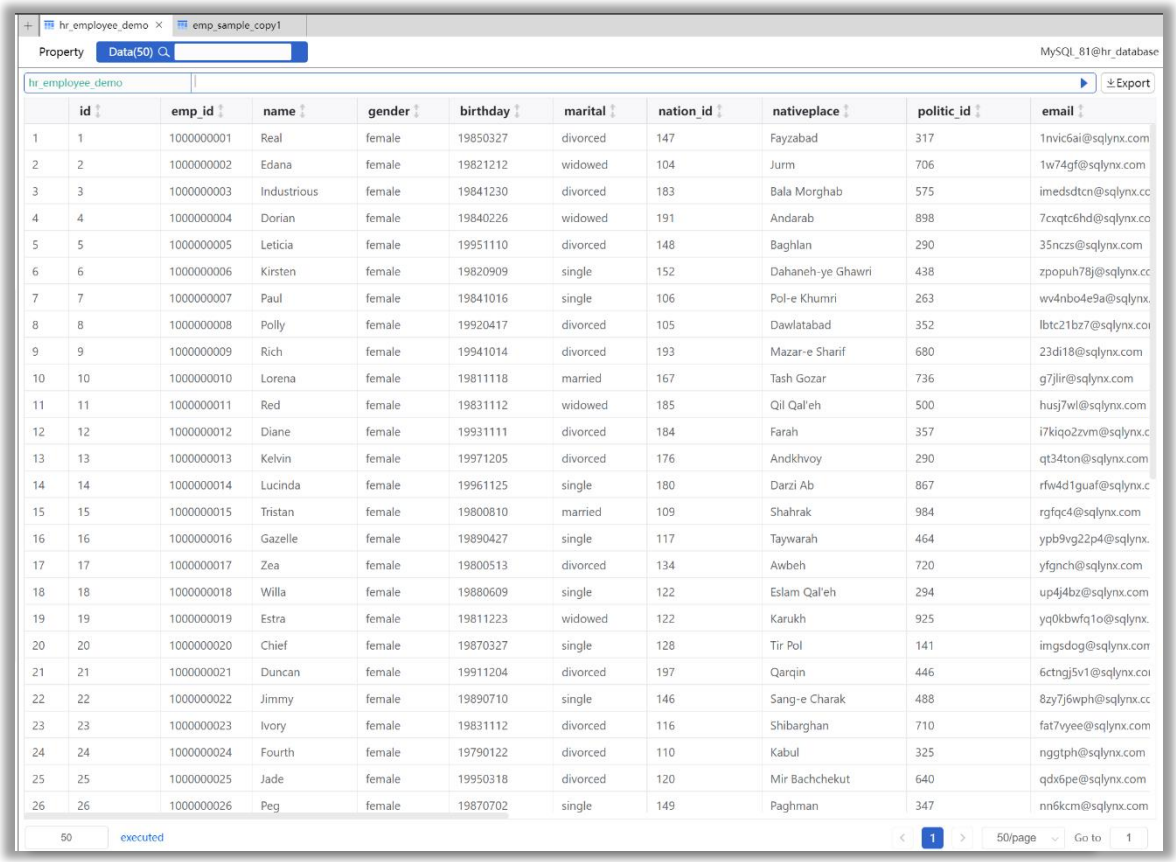
1. No data in the table.

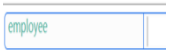
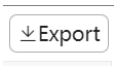
You can right-click in the blank space, select 'Add',

In the popup window, input data according to the configured columns, and execute.



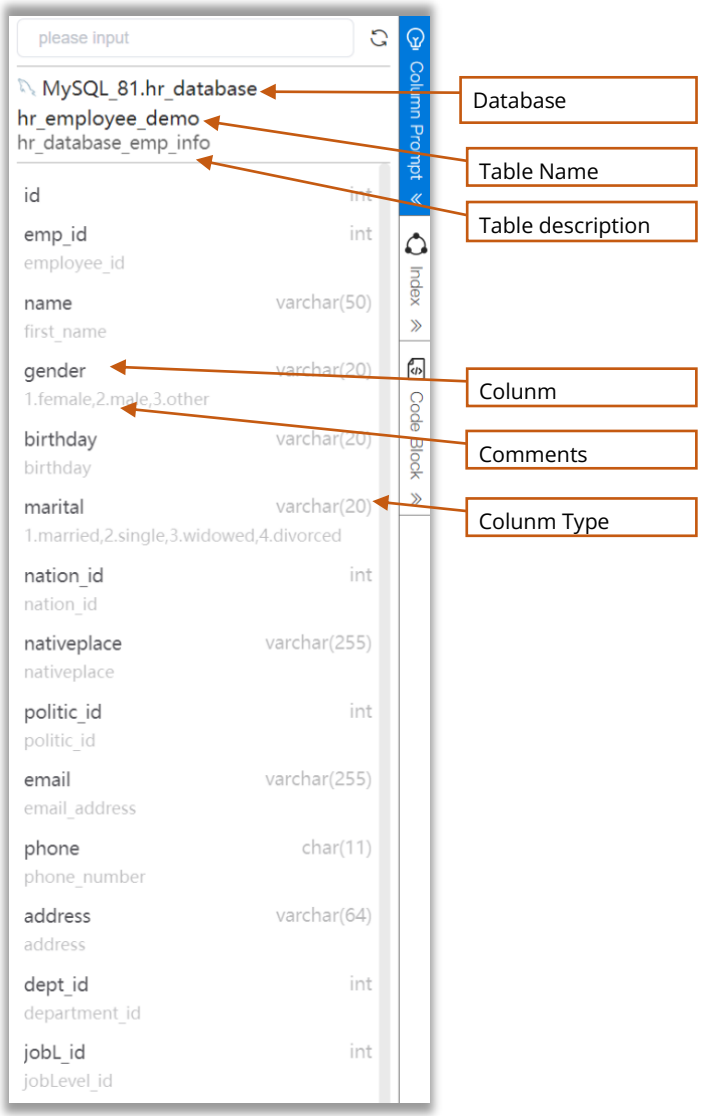
2. Data exists in the table



#	Location	Function	Description
1		Full-text Search	Click the magnifying glass icon on the right side of the "Data" tab to perform a full-text search on the current sample data.
2		Data Filter	Allows filtering of current sample data. Enter statement conditions in the blank box on the right side and click the execute button on the far right, such as: gender='F'. After execution, all data with the value 'F' will be displayed.
3		Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.
4		Export	Export the data of the current table to the local device. Refer to section 2.2.1.4 "Object Operations - Table - Context menu - Export Data".
5		Rows of sample data	Located at the bottom left corner of the data viewer, the default number of rows displayed is 50. Users can manually input any number as needed. After modification, click on the "Execute" button on the right side.

2.2.2.2 Prompt Pane

Located on the right side of the main window, this area displays detailed column information for tables, including colunm names, comments, and colunm types. The table column prompt pane is usually hidden. When open the query window, double-clicking on any table name or right-clicking and selecting "Open Column Prompt" will display it.

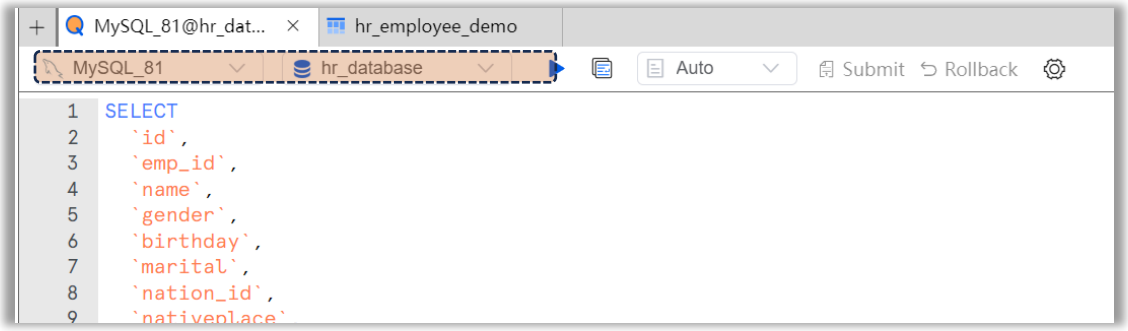


2.2.3 SQL Editor

Located in the middle of the main window, it is usually hidden but will be displayed after creating a new query, revealing the SQL editor page.

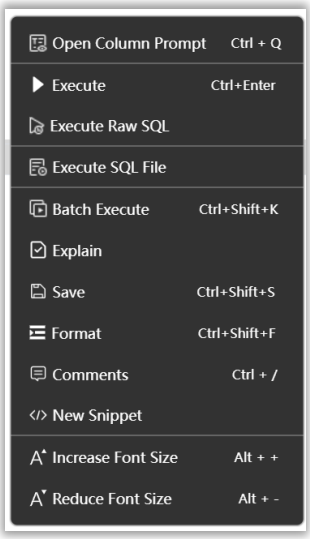
1. Top shortcuts of the SQL editor

Two dropdown boxes below the tabs indicate the current database path information of the SQL editor.



#	Location	Description
1	▶ Execute	Quick execution defaults to returning 1000 query results. ***The row count can be modified in the "default row count limit" settings.**
2	Format	One-click formatting of SQL statements for easy readability and inspection.
3	Auto Transaction	SQL transaction functionality allows toggling between automatic and transaction commit.
4	Settings	These settings are only effective for the current query and can be adjusted for “Default Row Count Limit” and “Max Row Count Limit”. Users can choose to keep connection to the current database.

2. Context Menu

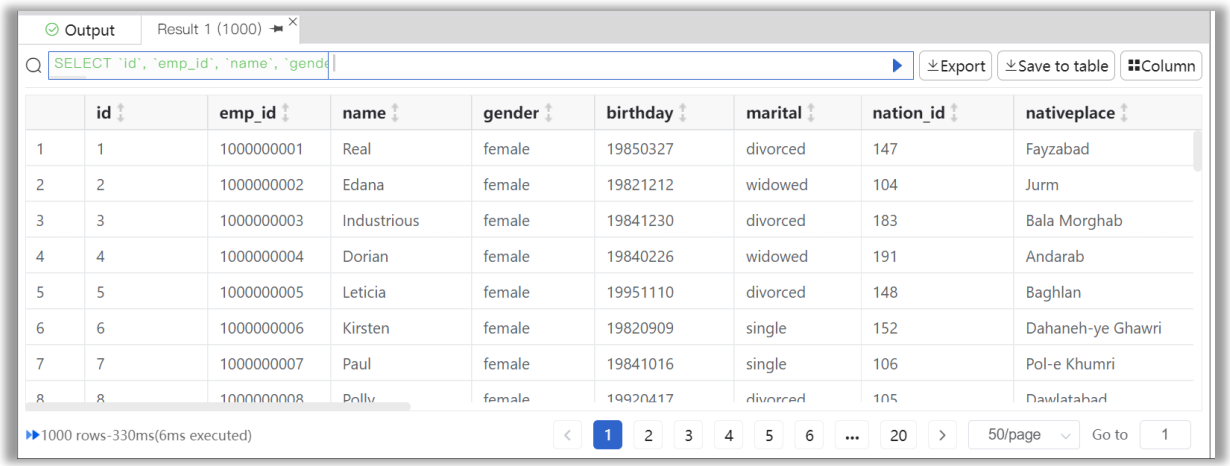


#	Function	Description
1	Open Column Prompt	Selecting the table name text, and clicking opens column prompt, which brings up the corresponding table's column prompt page on the right screen.
2	Execute	Quick execution defaults to returning 1000 query results. (Parameter modifications refer to Section 2.6.2.1 Data Settings)
3	Execute Raw SQL	Execution of Original SQL Statements in the Editing Box. By default, the max row count is set to 10000. (Parameter modifications refer to Section 2.6.2.1 Data Settings)
4	Execute SQL File	Select and Execute Local SQL Files.
5	Batch Execute	Execute SQL statements in batches.
6	Explain	Perform performance analysis on current SQL statements for optimization.
7	Save	Save frequently used SQL statements, with options to copy, modify, or delete.
8	Format	One-click formatting of SQL statements for readability and inspection.
9	Comments	Add comments.
10	New Snippet	Create habitual code blocks, with options to set indexes. Index names can be intelligently prompted in editor status. (All created code blocks can be queried in the personal center.)
11	Increase/Reduce Font Size	Customize the font size of the SQL editor, which is only valid for the current query window created.

2.2.4 Data Viewer

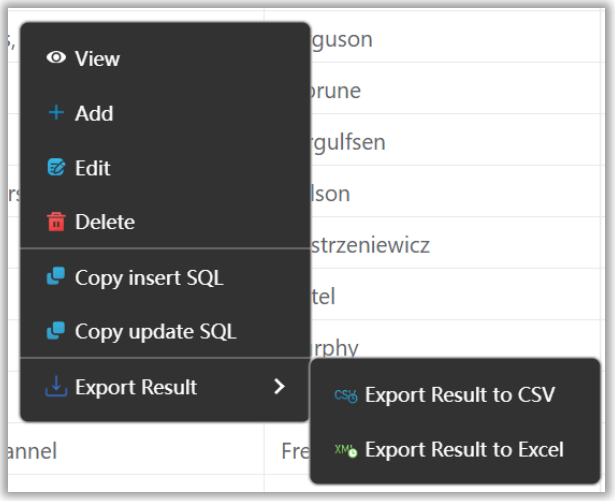
2.2.4.1 Query Result

1. The Data Viewer is located at the bottom center of the main window and displays query results. Double-clicking on the tab name supports full-screen display.



#	Location	Function	Description
1	Output	Output Log	Viewing the output log of query result.
2		Full-text Search	Click on the magnifying glass icon, in the search box, you can perform full-text search on the current query result .
3	select * from `hr_database`.`hr_emplo	Data Filter	You can filter the current query result by entering statement conditions in the blank box on the right side, and then click on the execute button on the far right, for example: gender='F'. After execution, all data values for 'F' will be displayed.
4	Export	Export	Export all data under the current query statement to the local computer. CSV and Excel formats are supported.
5	Save to table	Save to Table	Save the data of the current query result to another table. The operation is the same as "Data Migration."
5	id	Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.

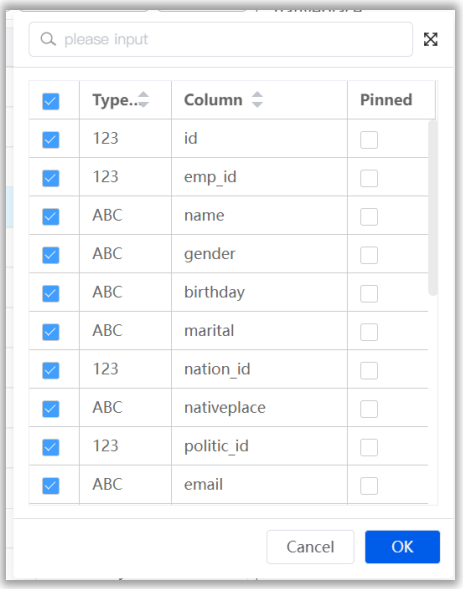
2. Context Menu



#	Function	Description
1	View	Viewing the currently selected single row data, but it cannot be modified in view mode.
2	Add	Inserting single row data into the current table.
3	Edit	Modifying the currently selected single row data, only applicable for single table queries.
4	Delete	Deleting the currently selected single row data.
5	Copy insert SQL	Automatically generating INSERT SQL statements, where the inserted values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
6	Copy Update SQL	Automatically generating UPDATE SQL statements, where the updated values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
7	Export Result	Exporting the query result set returned by the current web page to the local computer. CSV and Excel formats are supported.

3. Column Operations

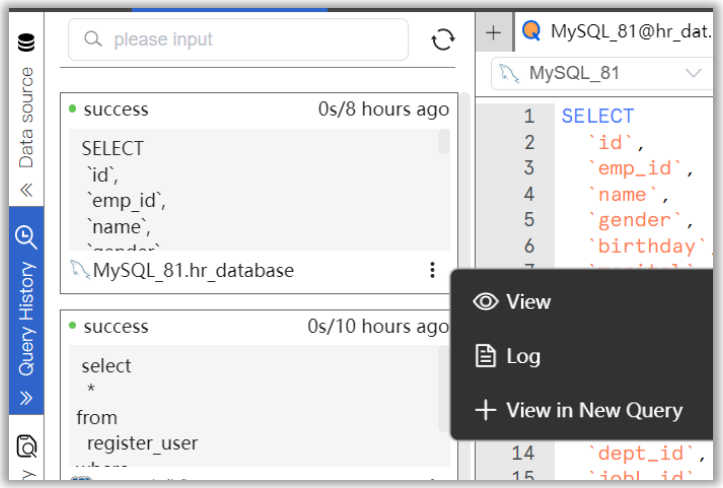
Located at the top right corner of the data viewer, it allows operations such as searching, filtering, sorting, and pinning all columns of the current query result.



#	Location	Description
1	please input	Search for colunms within the current table
2	Type..	Sort in ascending or descending order
3		Toggle the checkbox to show/hide the columns you want to view
4	Pinned	Checked colunms can be pinned to the leftmost position.

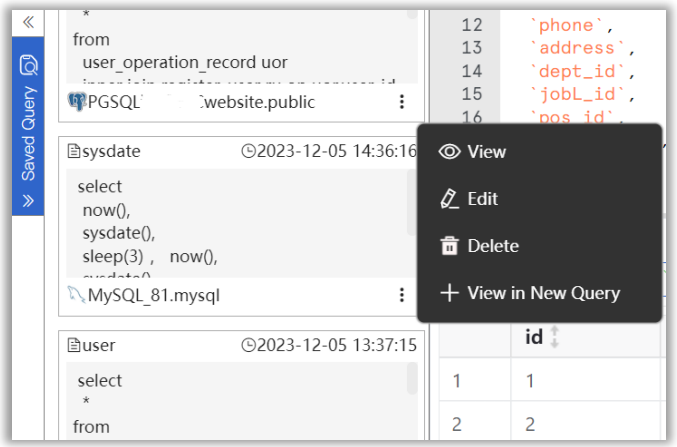
2.2.4.2 Query History

Display the query history executed by the current user. Users can retrieve historical query statements, view the statements, view the logs, or open them in a new window.



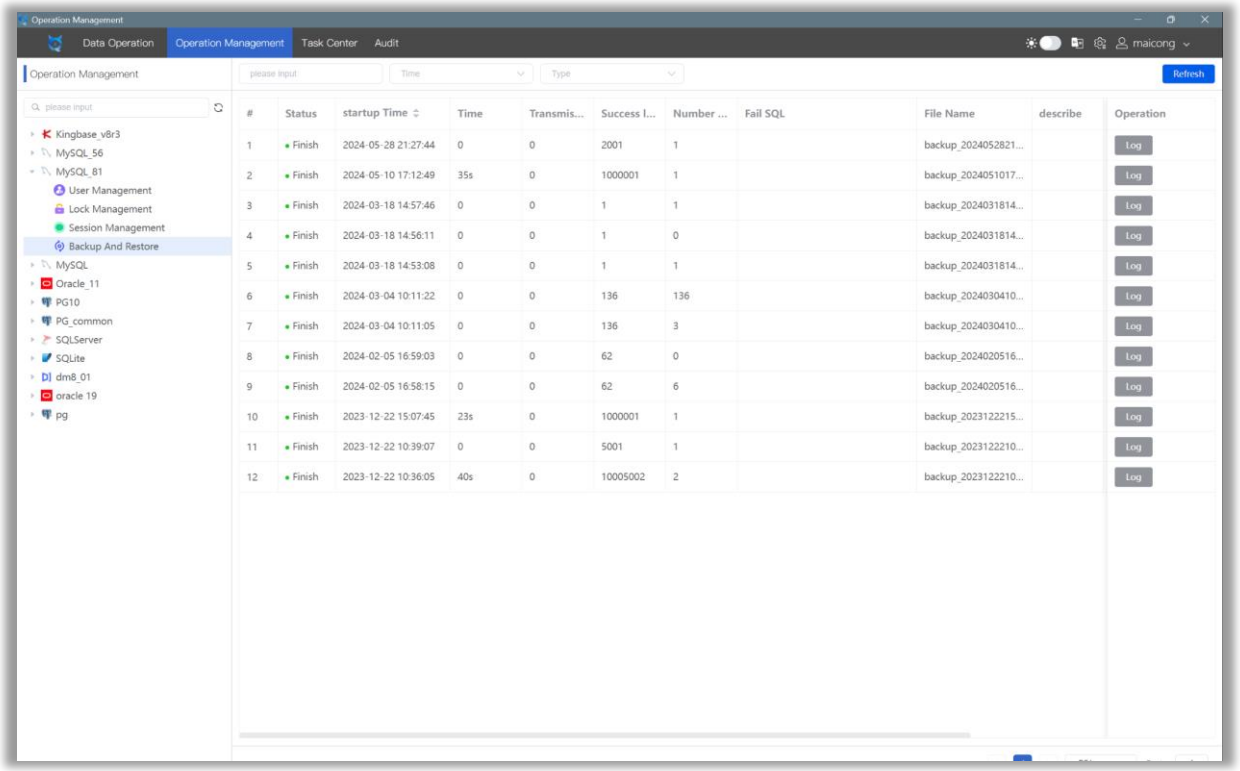
2.2.4.3 Saved Query

Display the commonly used query statements saved by the current user. Users can retrieve saved statements, view, edit, delete, or open them in a new window.

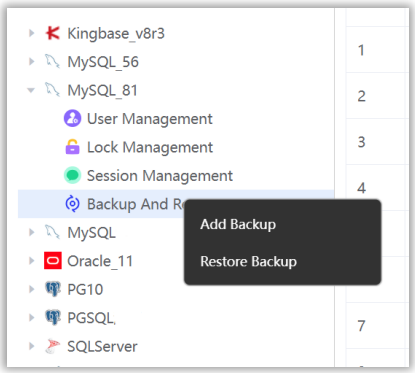


2.3 Operation Management

View user management, lock management, and session management information for the configured data sources. Perform database backup and restoration.



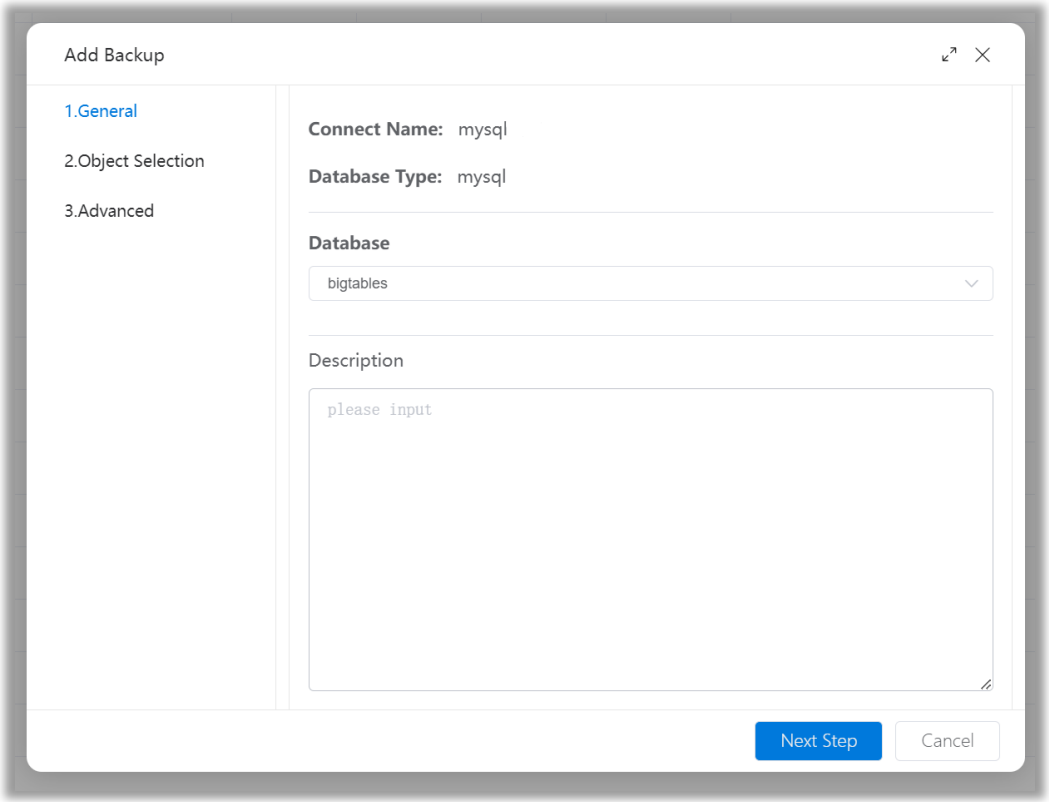
2.3.1 Backup and Restore



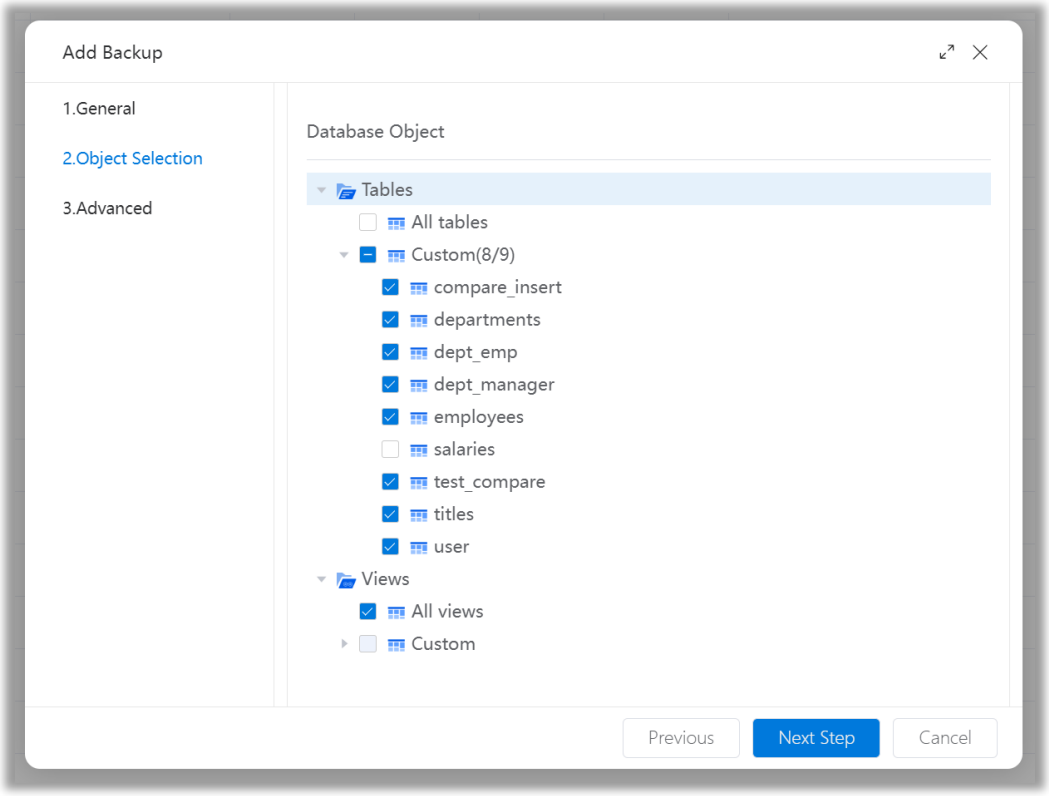
#	Function	Description
1	Add Backup	Backup the data from the currently selected database to a local SQL file.
2	Restore Backup	Restore the data from the backup SQL file to the selected database.

2.3.1.1 Add Backup

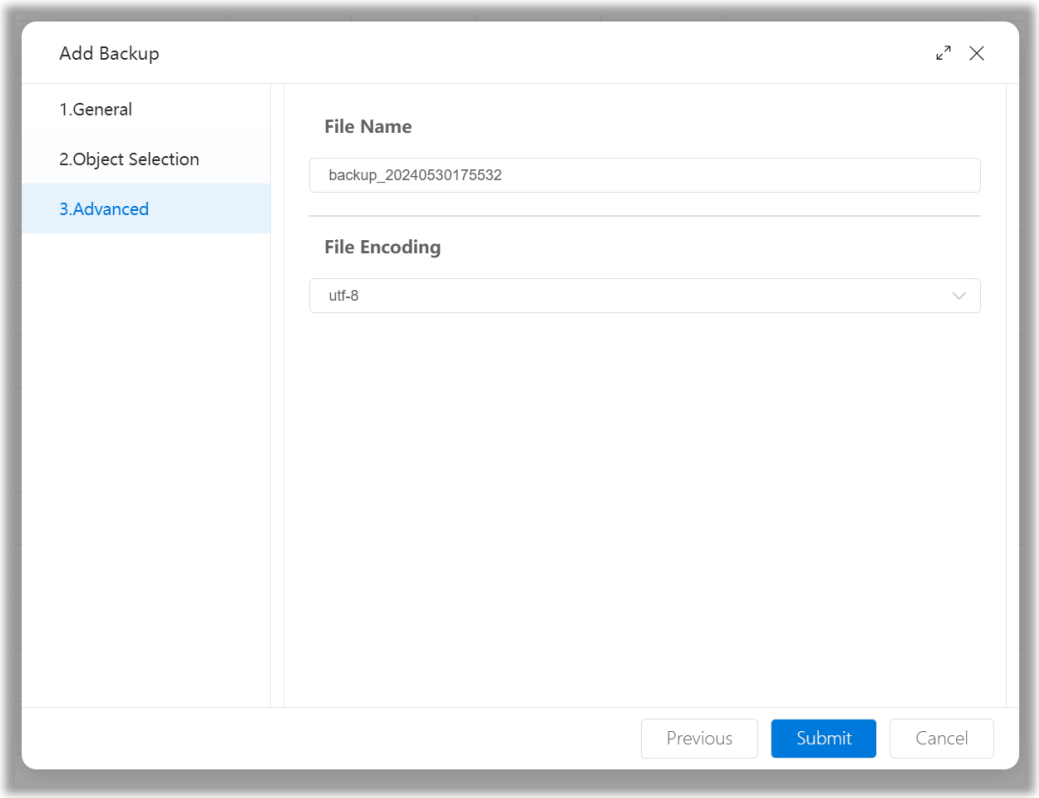
Right-click on the menu and select the "Add Backup" function, then choose the database you want to backup.



You can either select all tables in the database or choose specific tables to backup by customizing your selection.

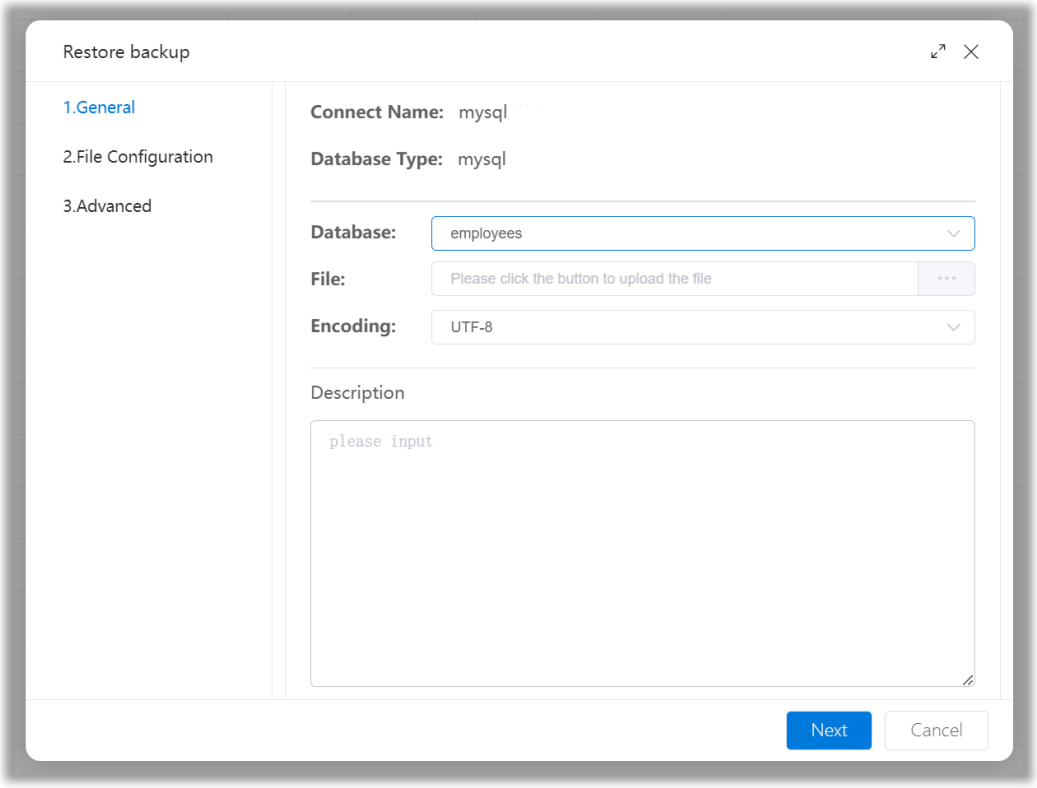


Set the filename and encoding for the backup SQL file, then click "Submit".

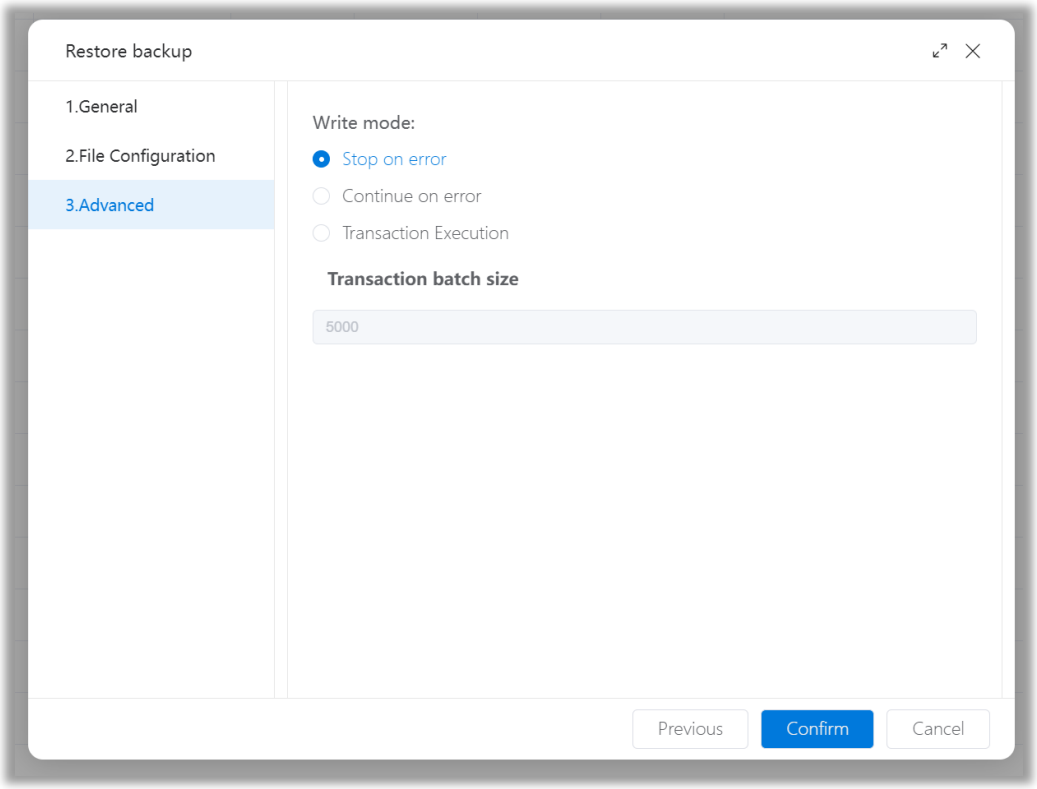


2.3.1.2 Restore Backup

Right-click on the menu and select the restore backup function, then choose the local backup SQL file.



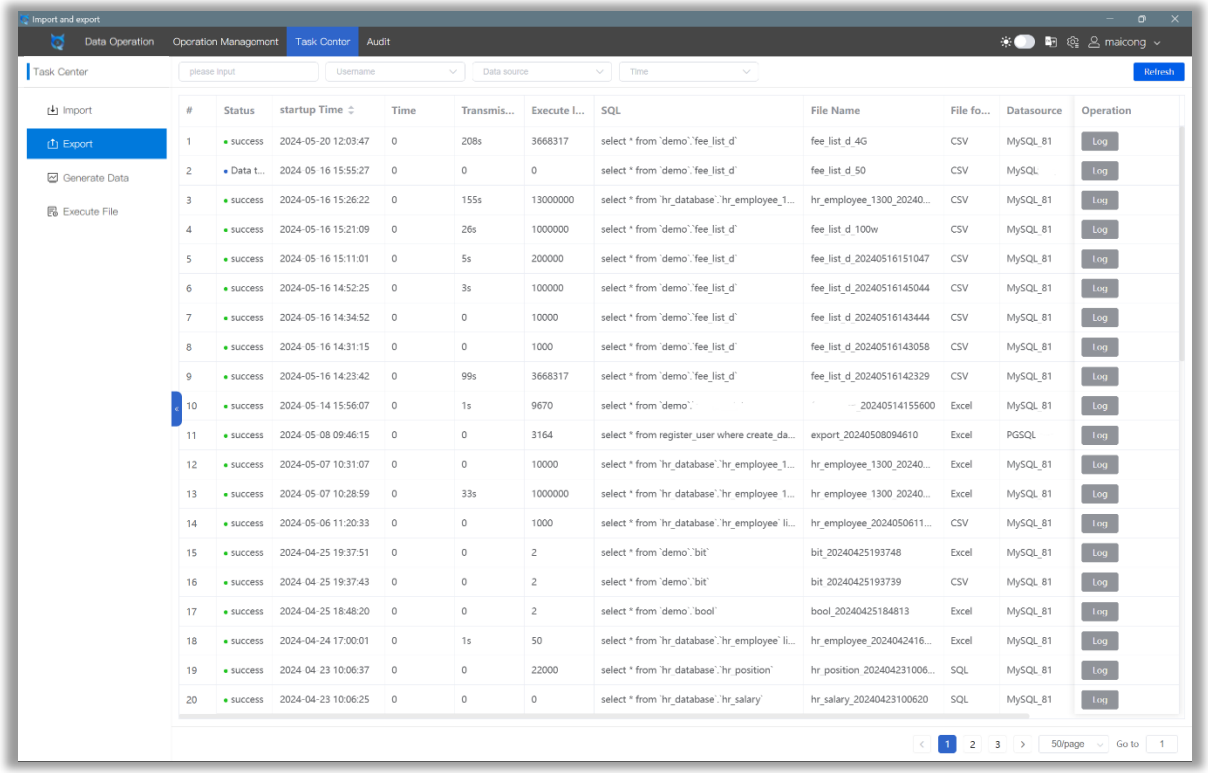
Select whether the restore operation requires transaction execution, and then click "Confirm".



2.4 Task Center

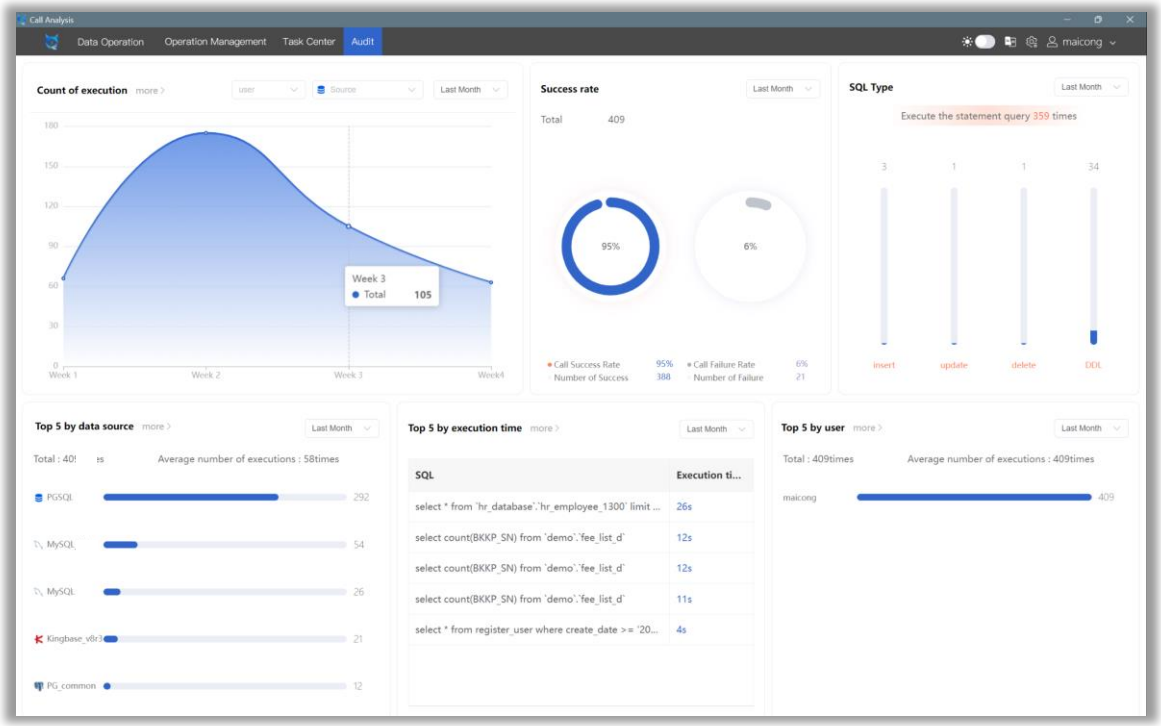
The "Task Center" in the top main menu records user behavior logs related to data import, data export, and generation test data.

If the data generation process takes too long due to a large amount of data being generated, or if there is a need to terminate the data generation operation, you can click on the "Terminate" option in the rightmost action column of the corresponding record in the Task Center to stop the SQL execution operation.

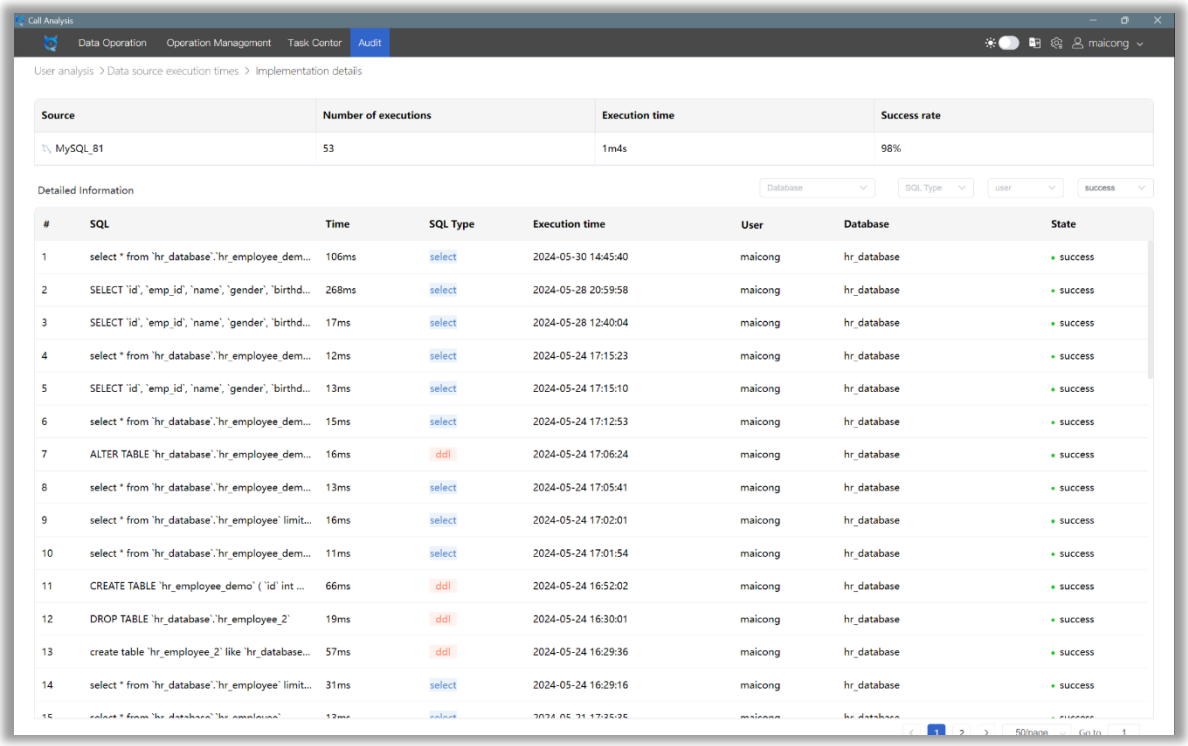


2.5 Audit

Based on operation logs, user behavior records can be automatically analyzed to generate corresponding data visualization charts based on dimensions such as execution frequency, success rate, SQL type, classification by data source, classification by execution time, and classification by operating user.

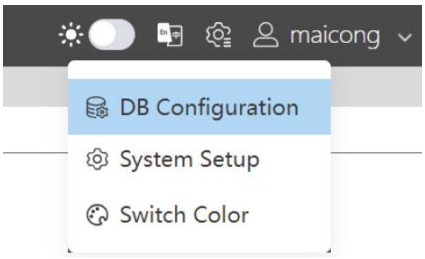


Clicking on "More" allows you to view detailed operation data and filter for export.



2.6 System Setup

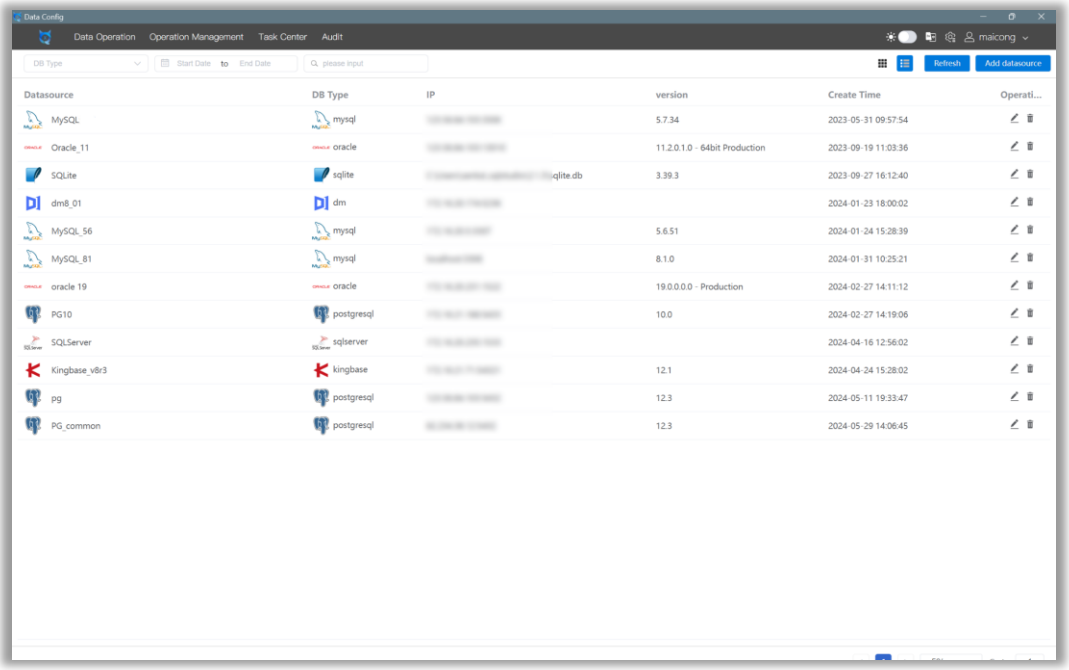
Located on the top-right corner of the main menu, here you can operate the system settings for SQLynx.



#	Location	Description
1		Switch system mode between light/dark mode
2		Switch between displaying system menus in Chinese or English
3	DB Configuration	Configuration operations for data sources
4	System Setup	System displays data, font size, and other global parameter settings
5	Switch Color	Switch theme color

2.6.1 Data Configuration

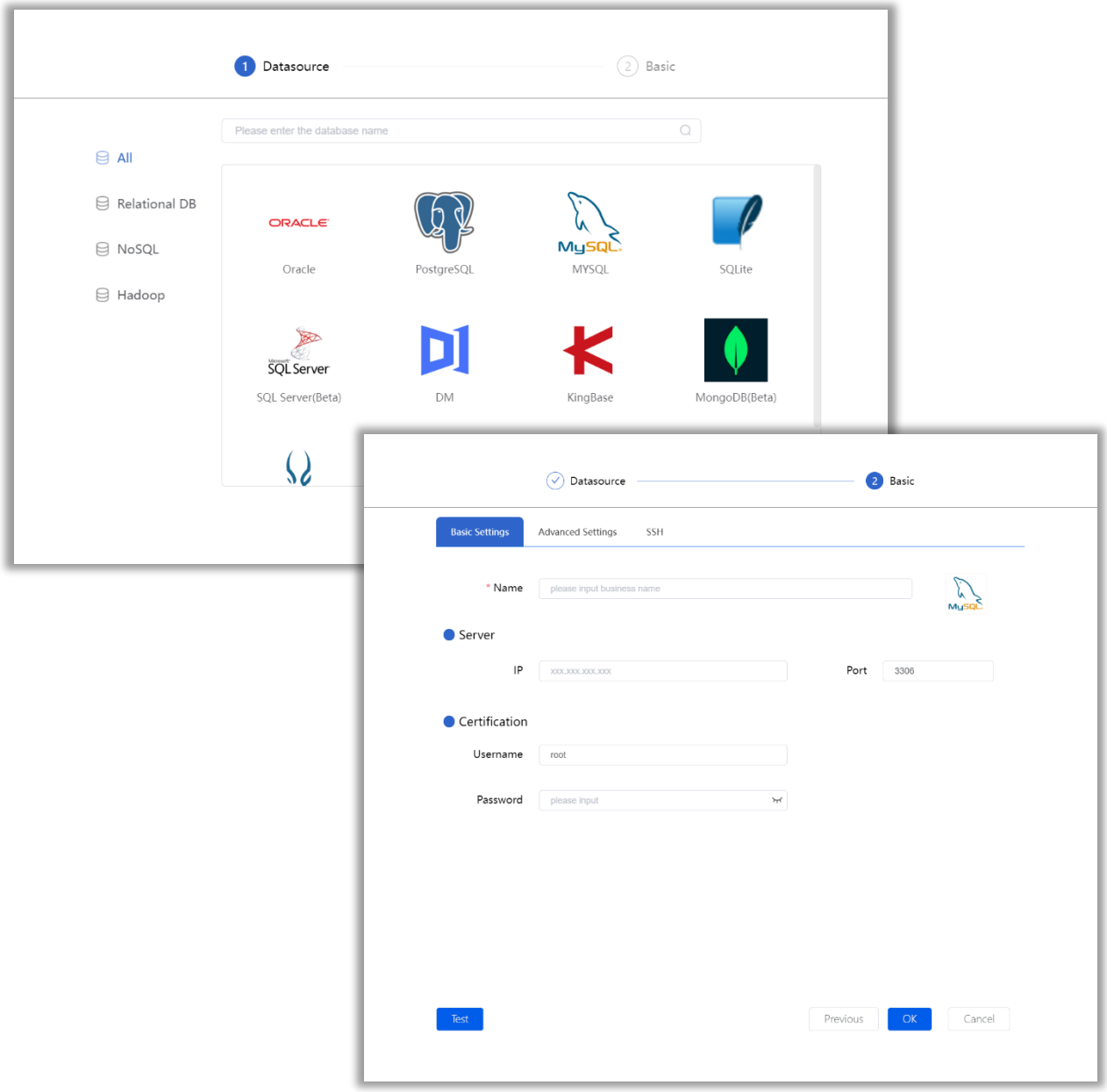
You can view, add, modify, and delete data sources in SQLynx.



1. Add Data source：

- Click on "Add Data Source.
- In the guided popup window, select the appropriate database and click "Next."
- Enter the basic settings of the data source, such as the business system name, data source address, port number, username, and password.
- If more configuration is needed, click on "Advanced Settings" to replace the database driver version, character set, add connection properties, driver properties, etc.
- Click on "Test" button. If the test is successful, it means the data source can be added. If the test fails, please check if the data source and network connection are correct.

***Note:** For connection properties, driver properties, and other parameters, please refer to the JDBC documentation released by the added data source's official.

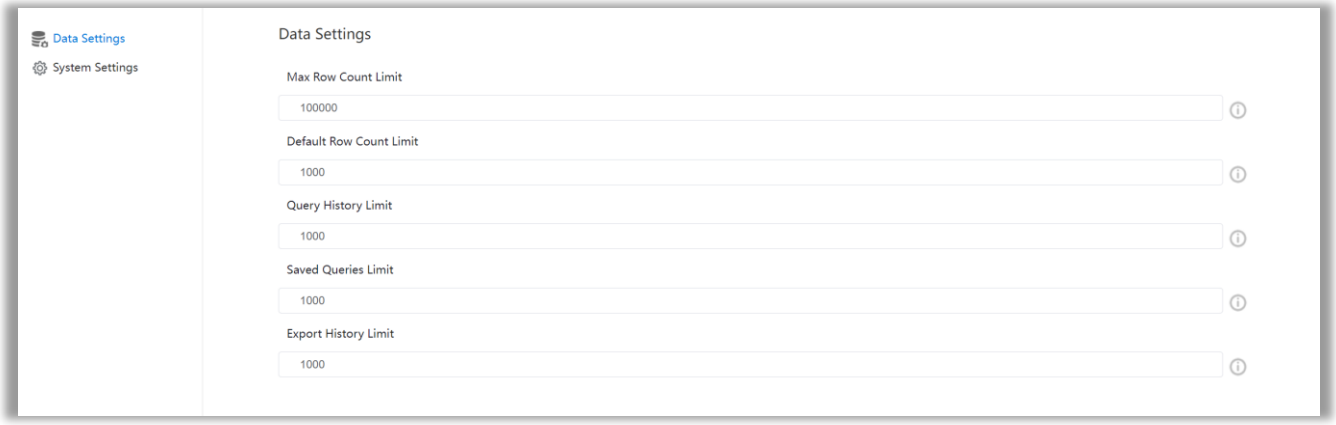


2.6.2 System Setup

You can adjust the settings for query results, JVM, and system theme according to the user's actual usage needs.

2.6.2.1 Data Settings

Based on the user's actual usage needs, you can modify the following data parameters.



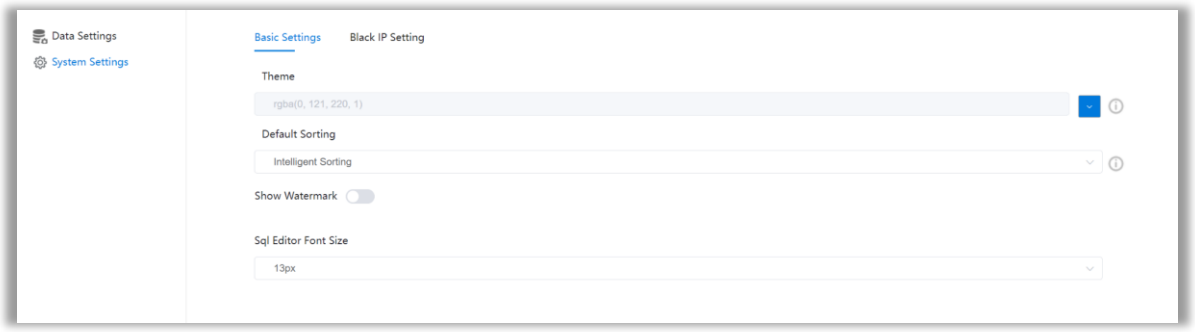
1. Modify to the desired numerical value.

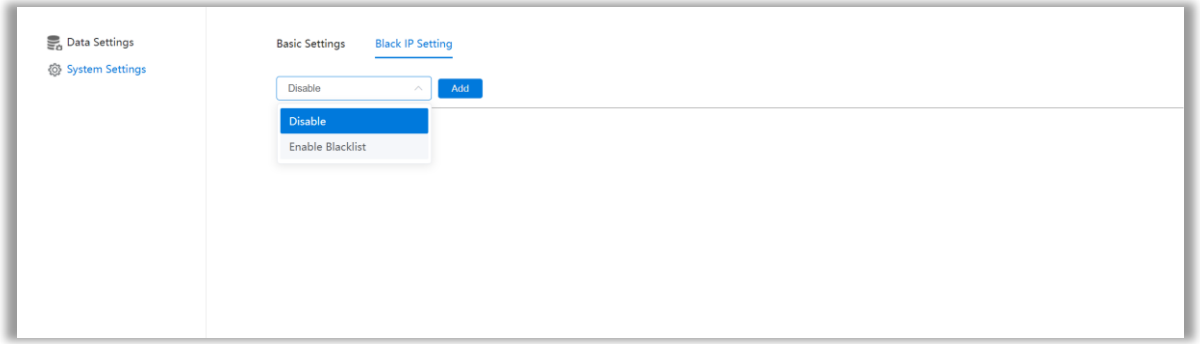
2. After saving, return to the homepage (no need to restart SQLynx).

#	Data Settings	Default	Description
1	Max Row Count Limit	10000	The upper limit of max rows returned when executing query statements in SQLynx.
2	Default Row Count Limit	1000	The upper limit of default rows returned when using "Execute" to query.
3	Query History Limit	1000	The upper limit of query history logs saved in "Query History".
4	Saved Queries Limit	1000	The upper limit of commonly used query statements saved in "Saved Query".
5	Export History Limit	1000	The upper limit of historical export data logs.

2.6.2.2 System Settings

According to the user's actual usage needs, you can modify the theme color and default sorting. After modification, save it without the need to restart SQLynx.





#	System Settings	Default	Description
1	Theme	Color Parameters	Default theme color scheme, can be customized according to user preferences
2	Default Sorting	Intelligent Sorting	default sorting rule within SQLynx
3	Show Watermark	Off	Option to toggle whether to display watermark
4	SQL Editor Font Size	13px	Option to set the font size of the SQL editor (applies to all SQL editors)
5	Blacklist Setting	Disable	Option to enable or disable the blacklist feature

2.6.3 Switch Theme

You can switch between the default orange, blue, and purple theme colors.

2.7 Account

2.7.1 My Profile

1. Modify Login Password

Click on "Settings" to modify the password in the pop-up window。

2. Saved SQL

Display the user's "Saved Queries" records, with options to modify, copy, or delete.

3. Snippets

Display the user's "Code Blocks" records, with options to modify or delete.

4. Preferences

Display the user's current theme color scheme and default sorting rules.

2.7.2 Support

SQLynx Offical Website: https://www.sqlynx.com

2.7.3 Feedback

Send an email to **service@sqlynx.com** for assistance.

2.7.4 About Us

Display the SQLynx version, Java version, and server time currently in use by the user.

2.7.5 Sign Out

Sign out of the SQLynx account.

3. SQLynx Enterprise

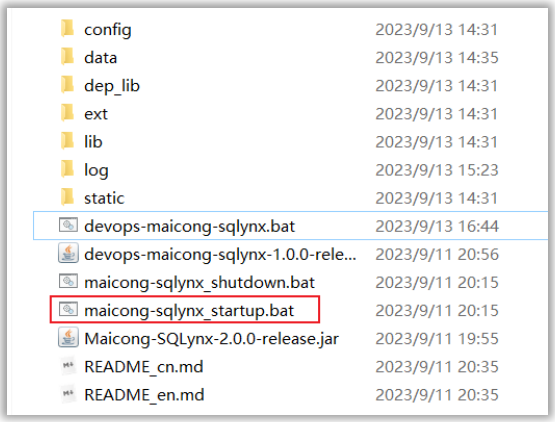
3.1 Startup

3.1.1 Windows Version

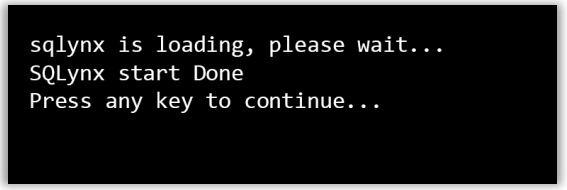
3.1.1.1 SQLynx Startup

1. Download and unzip the SQLynx package locally. After unzipping, a folder named 'sqlynx' will be created, navigate to its directory.

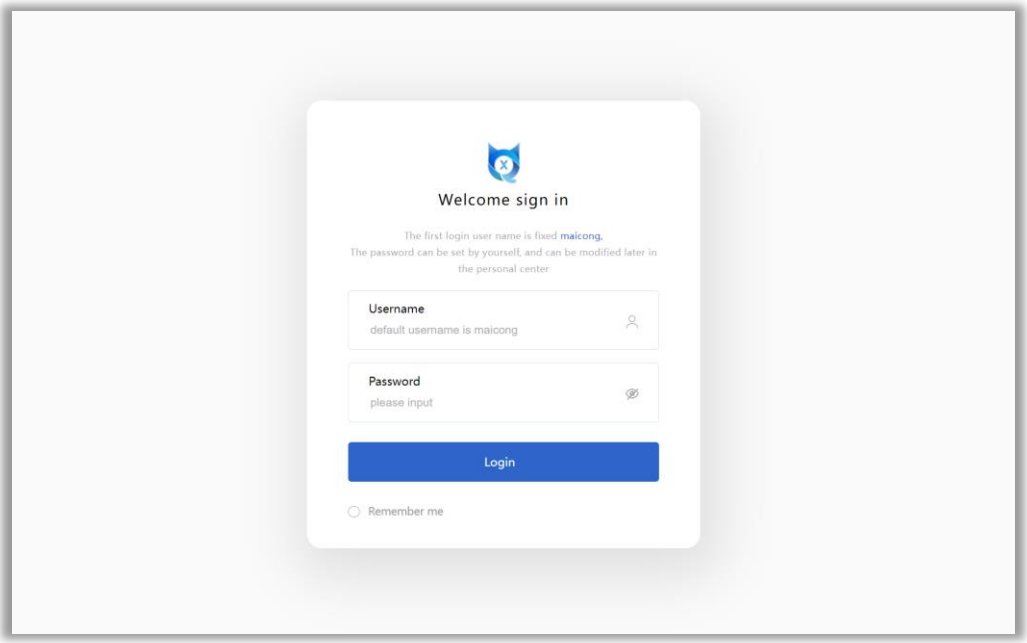
2. In the folder, double-click the “maicong-sqlynx_startup.bat” file.



3. After double-clicking the maicong-sqlynx_startup.bat file, a command window will pop up.



4. The SQLynx login page will automatically open in your browser, indicating successful deployment. If it does not automatically redirect, manually launch your browser and navigate to http://<server IP address>:18888. The default port is 18888, which supports custom port number modification.

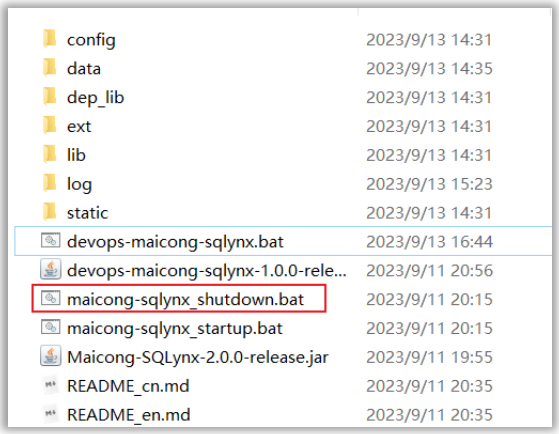


5. Log in with your username and password. The default username is “maicong,” and the initial password is set by the user input.

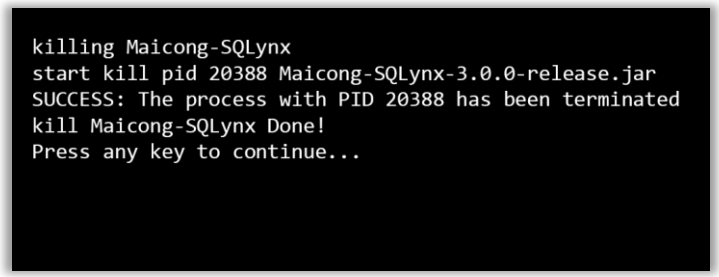
6. After logging in, only the WEB client of SQLynx is available; desktop client is not supported.

3.1.1.2 SQLynx Shutdown

1. Go to the sqlynx folder, double-click the maicong-sqlynx_shutdown.bat file.



2. A command window will pop up, indicating the server has been shut down.

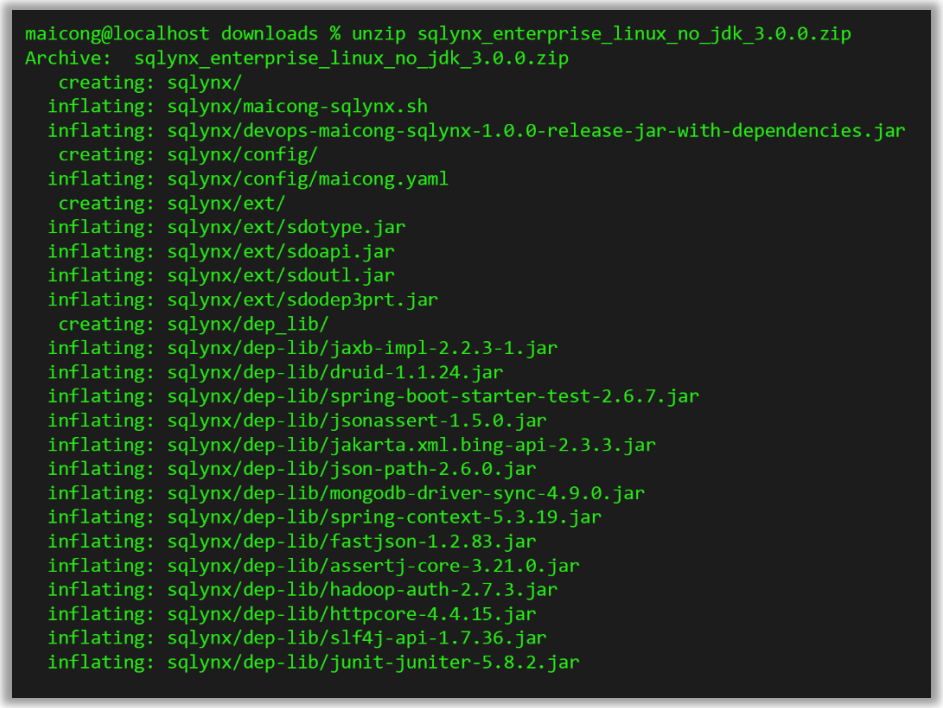


3.1.2 Linux Version

3.1.2.1 SQLynx Startup

1. Download the SQLynx package and unzip it to the current folder with the command unzip <filename>

**Example: unzip sqlynx_enterprise_linux_no_jdk_3.0.0.zip*



You can also unzip to a specific directory using the command

unzip <filename> -d <path>

If unzip is not installed, you can install it with the command

yum install -y unzip zip

2. After unzipping, a folder named 'sqlynx' will be created. Enter the directory with the command cd sqlynx

```
maicong@localhost downloads % cd sqlynx
maicong@localhost sqlynx %
```

3. By running the ls command, you can see a file named maicong-sqlynx.sh in the directory

```
maicong@localhost sqlynx % ls
Maicong-SQLynx-3.0.0-release.jar              devops-maicong-sqlynx-1.0.0-release-jar-with-dependencies.jar
README_cn.md                                  devops-maicong-sqlynx.sh
README_en.md                                  ext
config                                        lib
data                                          maicong-sqlynx.sh
dep_lib                                       static
```

4. Execute the command: ./maicong-sqlynx.sh

You will see the following prompt:

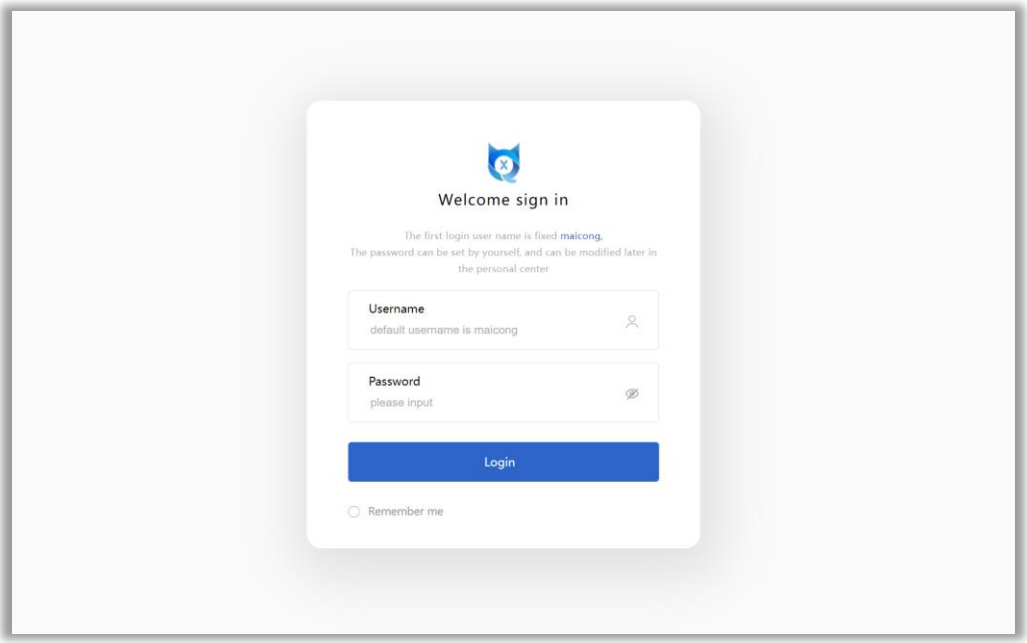
```
maicong@localhost sqlynx % ./maicong-sqlynx.sh
*********************************************
**                                         **
**        maicong-sqlynx  conmands         **
**                                         **
*********************************************
**       sh maicong-sqlynx.sh start        **
**       sh maicong-sqlynx.sh stop         **
**       sh maicong-sqlynx.sh restart      **
*********************************************
```

5. Execute the command sh maicong-sqlynx.sh start to start the service

```
maicong@localhost sqlynx % sh  maicong-sqlynx.sh start

 _ __ ___   __ _(_) ___ ___  _ __   __ _     __| | __ _ __ _ ___
| '_ ` _ \ / _` | |/ __/ _ \| '_ \ / _` |   / _` |/ _` / _` / __|
| | | | | | (_| | | (_| (_) | | | | (_| |  | (_| | (_| | (_| \__ \
|_| |_| |_|\__,_|_|\___\___/|_| |_|\__, |   \__,_|\__,_|\__,_|___/
                                   |___/

-e maicong-sqlynx server is started
JAVA_OPTS:
-server
-Xms256m
-Xmx4g
-XX:+UseG1GC
-XX:+UseStringDeduplication
-Xloggc:./log/maicong-sqlynx-gc.log
-XX:+HeapDumpOnOutOfMemoryError
-XX:HeapDumpPath=./log/maicong-sqlynx-heapdump
-Dfile.encoding=utf-8

-e please waiting start

-e maicong-sqlynx server start complete
```

6. After starting, you can access the SQLynx web page by using a browser to navigate to http://<server IP address>:18888. The default port is 18888, and it supports customization.

The appearance of the login page indicates a successful installation of SQLynx.

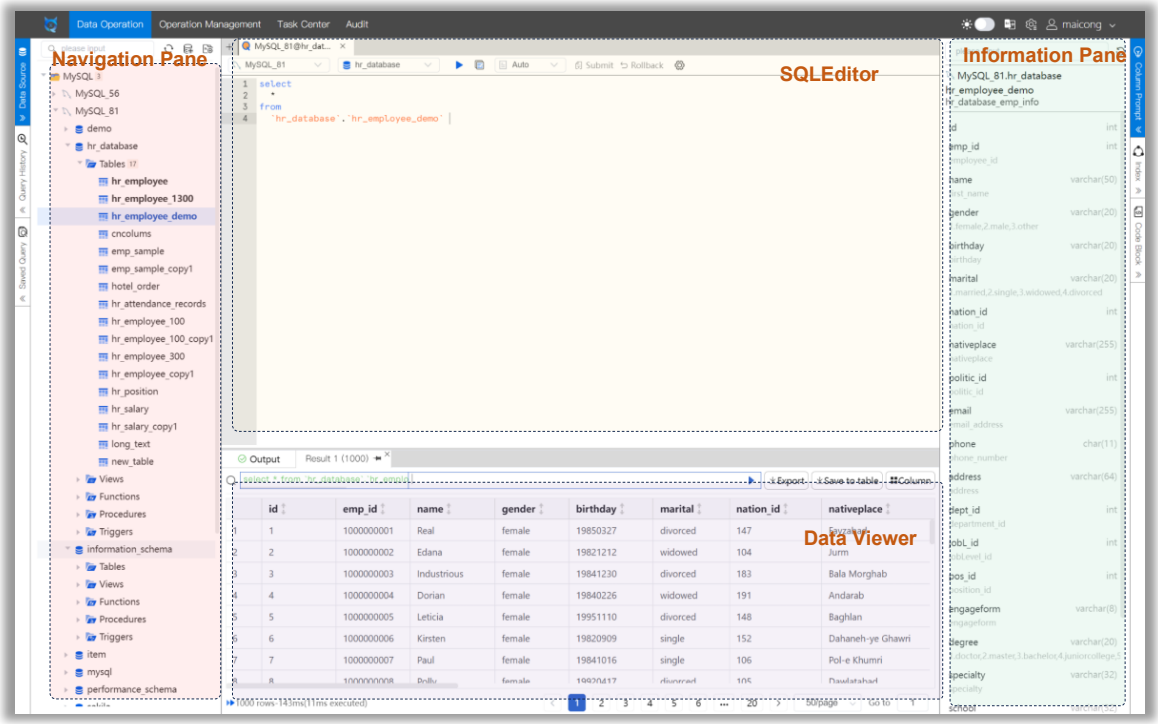


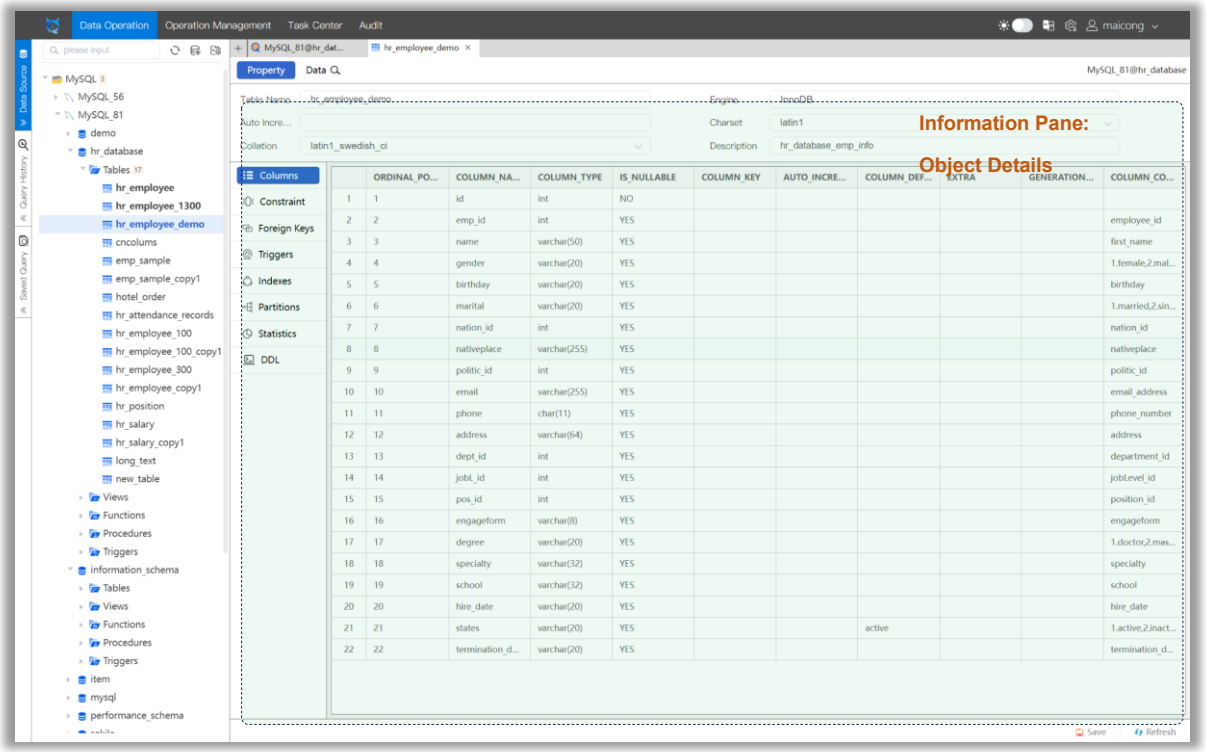
7. Login with your username and password. The default username is “maicong” with the initial password set by the user input.

8. After logging in, only the WEB client of SQLynx is available; desktop client is not supported.

3.2 Data Operation

The data operation module of SQLynx is composed of several areas: the navigation pane, information pane, SQL editor, and data viewer.



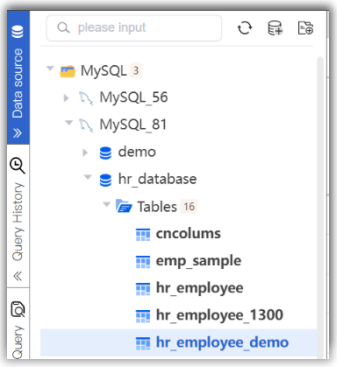


3.2.1 Navigation Pane

The navigation pane is located on the left side of the main window, featuring a tree structure.

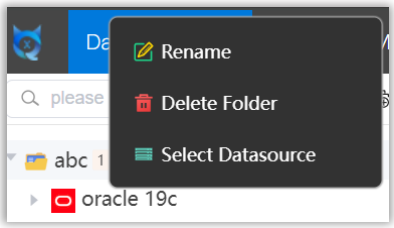
It allows browsing information of all successfully added data sources, databases, and database objects.

The related operational functions are accessible through the right-click context menu of the mouse.



#	Location	Description
1	please input	Search for database names, object names ***Supports fuzzy search; case-sensitive。**
2		Refresh
3		Add data source (refer to steps in "System Settings - Data Configuration")
4		Create folder

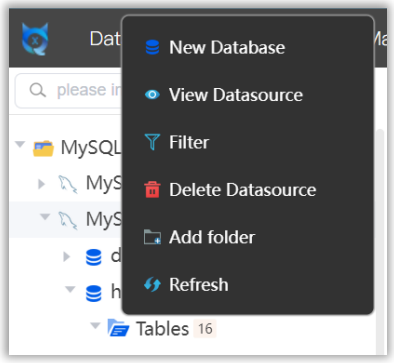
Right-click on the folder, the following menu appears.



#	Function	Description
1	Rename	Rename the currently selected folder
2	Delete Folder	Delete the currently selected folder ***Only delete the folder, the data sources within it will not be deleted; after the folder is deleted, data sources will automatically be moved out and returned to the navigation pane。**
3	Select Datasource	Configure the addition and removal of data sources for the currently selected folder

3.2.1.1 Add Database

Right-click on data source in the navigation pane, and the following menu appears.

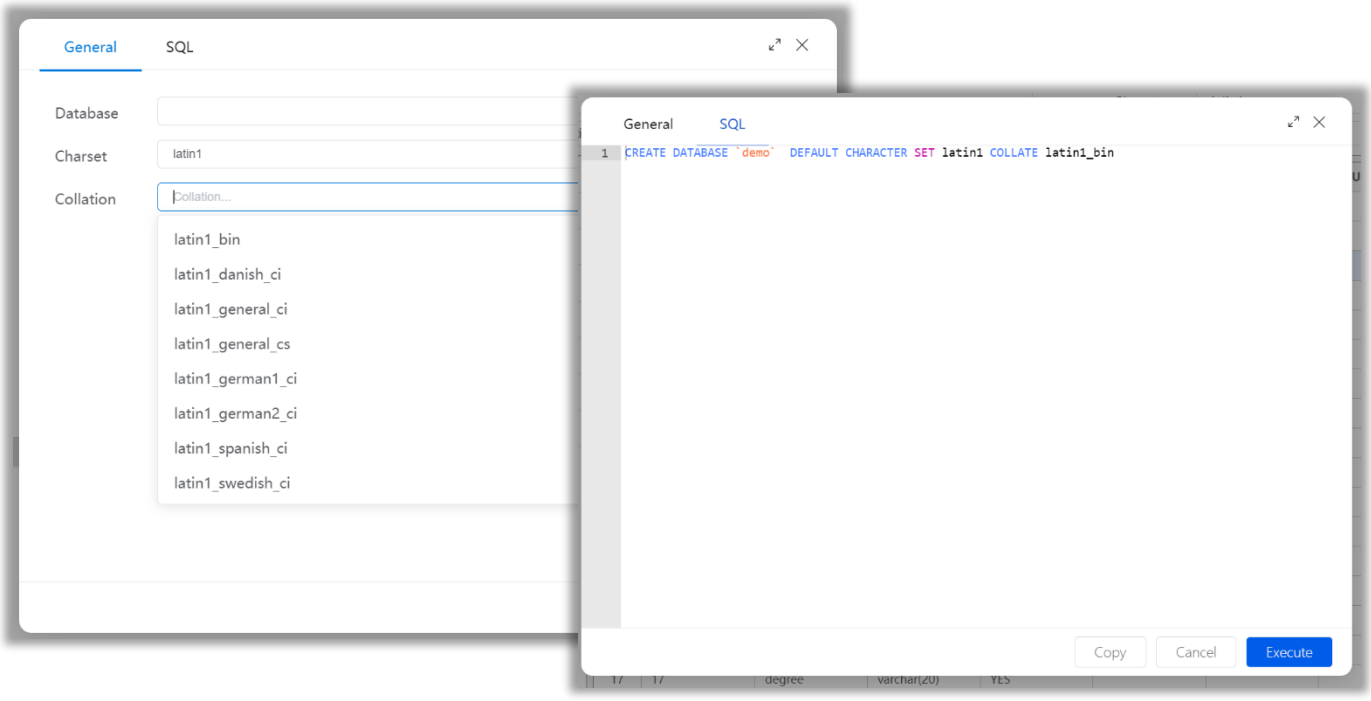


#	Function	Description
1	New Database	Create a new database, with options to set the database name, character set, and collation.
2	View Datasource	View the configuration information of the currently selected data source
3	Filter	Filter the databases displayed in the current navigation pane
4	Delete Datasource	Delete the currently selected data source ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
5	Add Folder	Create a new folder
6	Refresh	Refresh

Add Database:

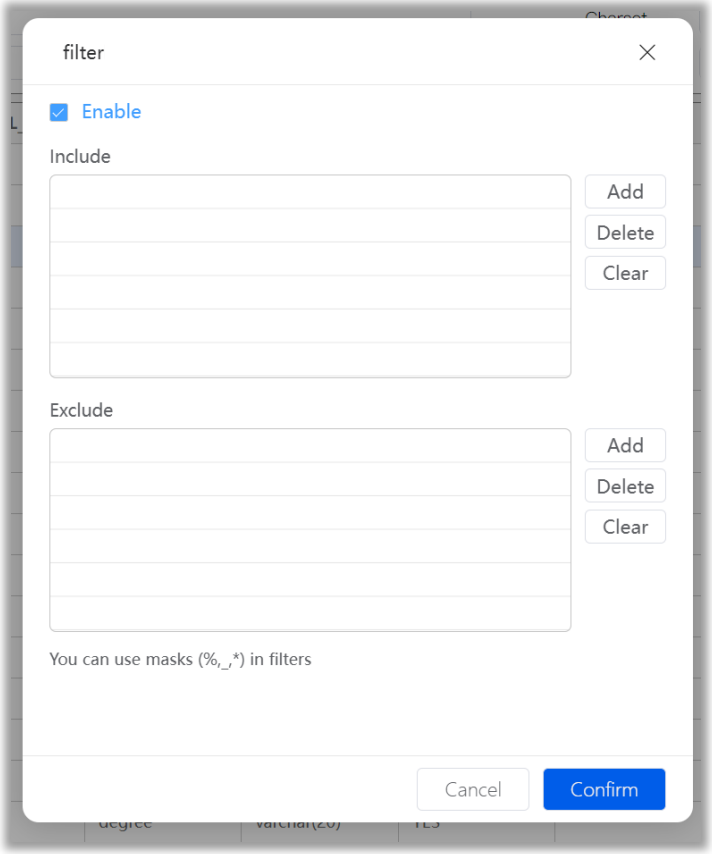
Create a new database and execute the operation after filling out the Database name, character set, and collation rules as required.

The SQL editor on the right will simultaneously display the corresponding SQL statements for reference.



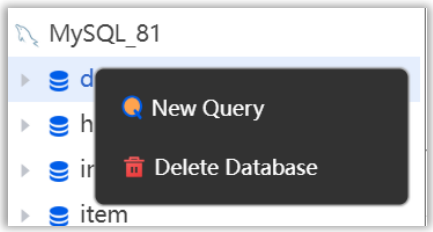
Filter：

You can set filter conditions based on your needs, to include or exclude certain keywords. When performing a fuzzy search, you need to add wildcards.



3.2.1.2 New Query

Expand the data source, right-click on the database name, and the following menu appears.

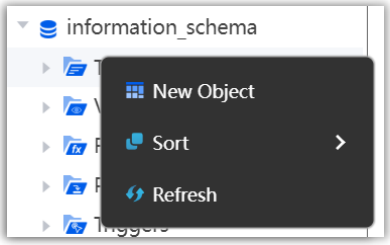


#	Function	Description
1	New Query	The main window switches to the SQL editor, with the default path being the path of the currently selected database.
2	Delete Database	Delete the currently selected database ***The deletion is irreversible once confirmed, please proceed with caution after verification.**

3.2.1.3 New Object

a. New Table

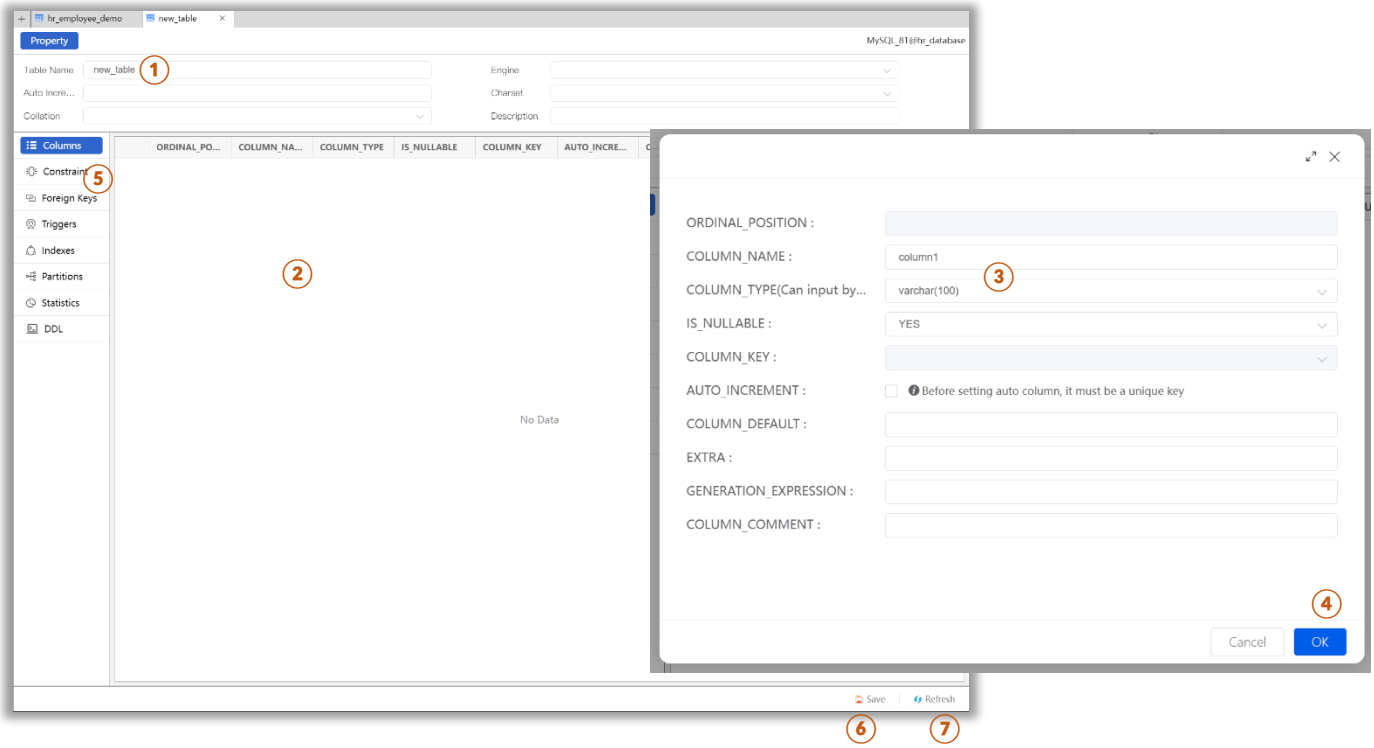
1. Expand the database, right-click on the " Tables " icon, and the following menu appears.



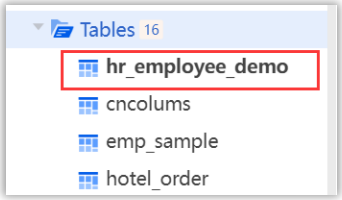
#	Function	Description
1	New Object	The main window becomes the object detail pane. where a new table is created. You can modify the table's properties on this page and execute these changes.
2	Sort	Sort all tables in the current database: By Intelligent Sorting*, By Weight, By Count, By Time, By First Letter.
3	Refresh	Refresh

2. Create a New Table

- Click on "**New Object**".
- Set the basic properties of the table in the object detail pane: such as Table Name, Character Set, Collation, and Description.
- Under the “Columns” tab, right-click on the blank area of the data detail box to bring up the context menu, and click “Add”.
- In the popup window, configure the column information to be added and click OK; repeat the third step until you have added all the required columns.
- Under the "Constraints" tab, right-click to bring up the context menu and click “Add” to set a primary key for the table, then confirm.
- Click save at the bottom right corner, which opens a popup showing the preview of the SQL statement for creating the table. You can directly click “Execute” to create the table or click “Copy” to save the current statement for further editing in the SQL editor.
- After execution, refresh the database to view the tables or refer to section 3.2.2.1 for steps on adding data post table creation.

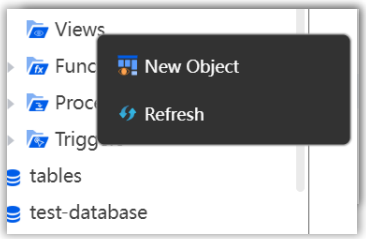


3. * Intelligent Sorting：By default, the system employs intelligent sorting to automatically prioritize and bold the tables that the user frequently operates, facilitating quick and easy access.



b. New View

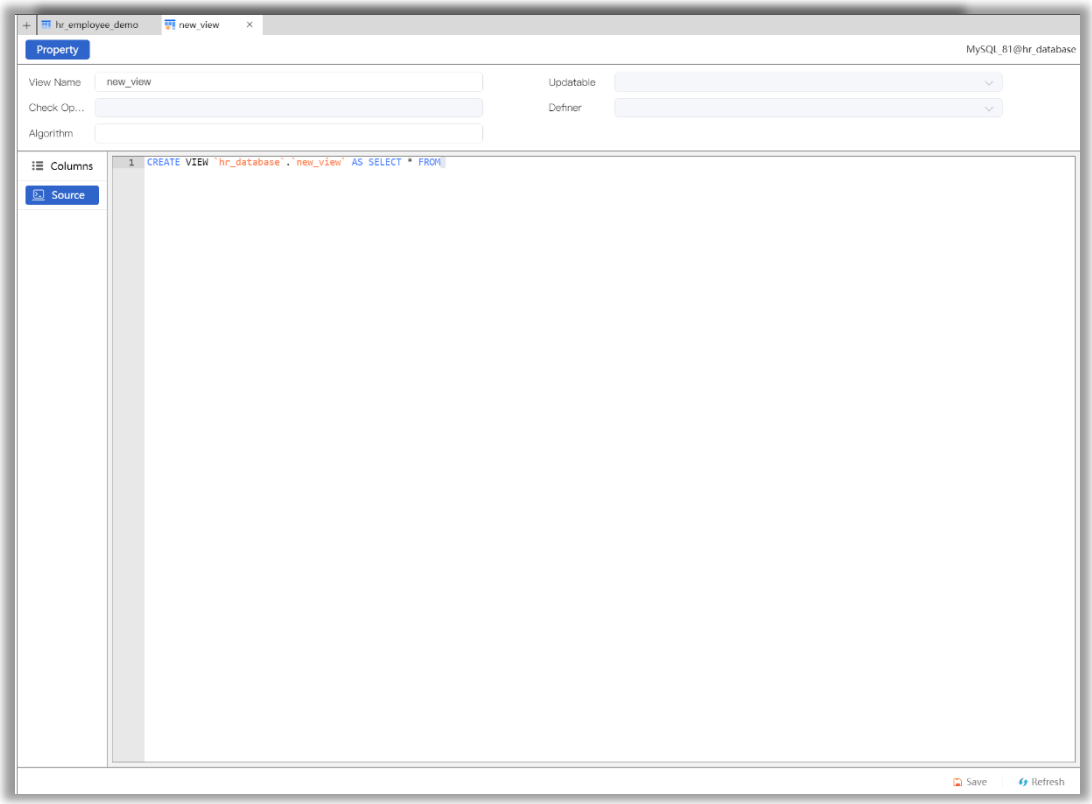
1. Expand the database, right-click on the Views " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new view.
2	Refresh	Refresh

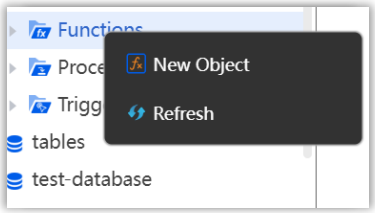
2. Create New View

- Click on "**Create Object**"
- Set the basic properties of the view in the object detail pane: View Name, Algorithm, etc.
- Write the SQL statement under the "Source" tab to create it, then click save and refresh.



c. New Function

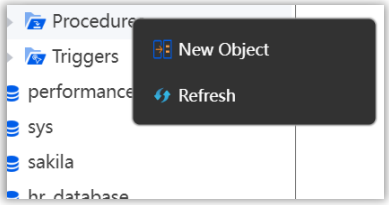
1. Expand the database, right-click on the Functions ıs " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new function.
2	Refresh	Refresh

d. New Procedure

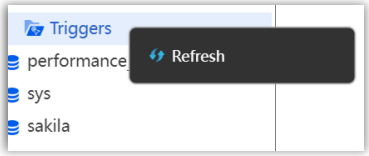
1. Expand the database, right-click on the Procedures re " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new procedure.
2	Refresh	Refresh

e. Triggers

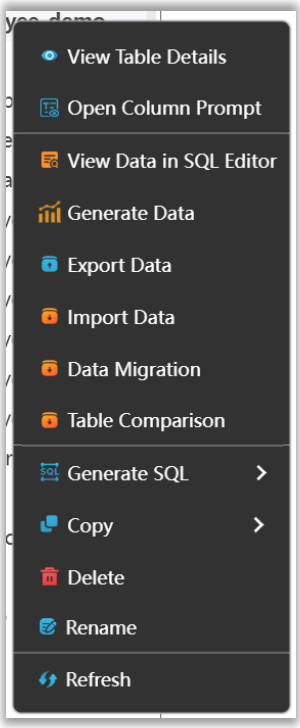
1. Expand the database, right-click on the Triggers ers " icon, and the following menu appears.



#	Function	Description
1	Refresh	Refresh

3.2.1.4 Object Operations

a. Table

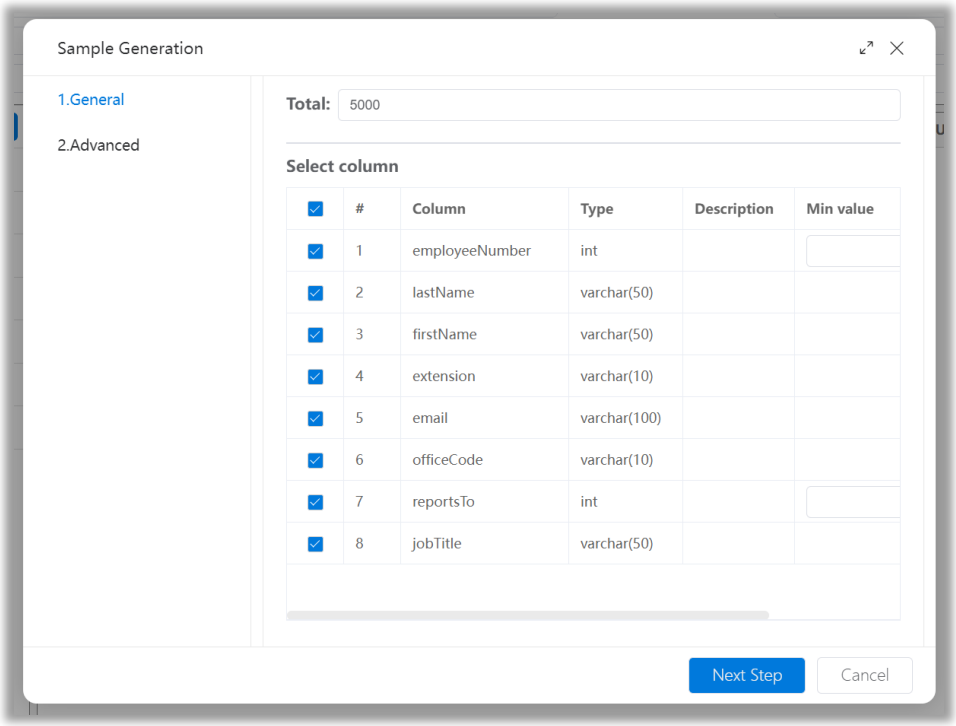


#	Function	Description
1	View Table Details	View the details of the currently selected table: the main window displays an object detail pane where you can view table properties and table data (for details, refer to section 3.2.2.1 Object Detail Pane).
2	Open Column Prompt	When open the query window, click on the menu function or double-click the table name to display prompts on the right screen (for details, refer to section 3.2.2.2 Prompt Pane).
3	View Data in SQL Editor	Automatically generate the statement "SELECT * FROM current table" and execute the query with the SQL editor (for SQL editor, refer to section 3.2.3 Data Operations - SQL Editor).
4	Generate Test Data	Generate test data with the options to replace or append.
5	Export Data	Export data to local storage, with options for CSV, Excel, or SQL file formats.
6	Import Data	Import CSV or Excel files from your local machine into the selected table.
7	Data Migration	Migrate data from the selected table to another table.
8	Table Comparison	Compare the structural differences of tables from two identical-type databases.
9	Generate SQL	Automatically generate SQL statements such as select, insert, update, delete, or DDL.
10	Copy	Within the same database, create a duplicate of

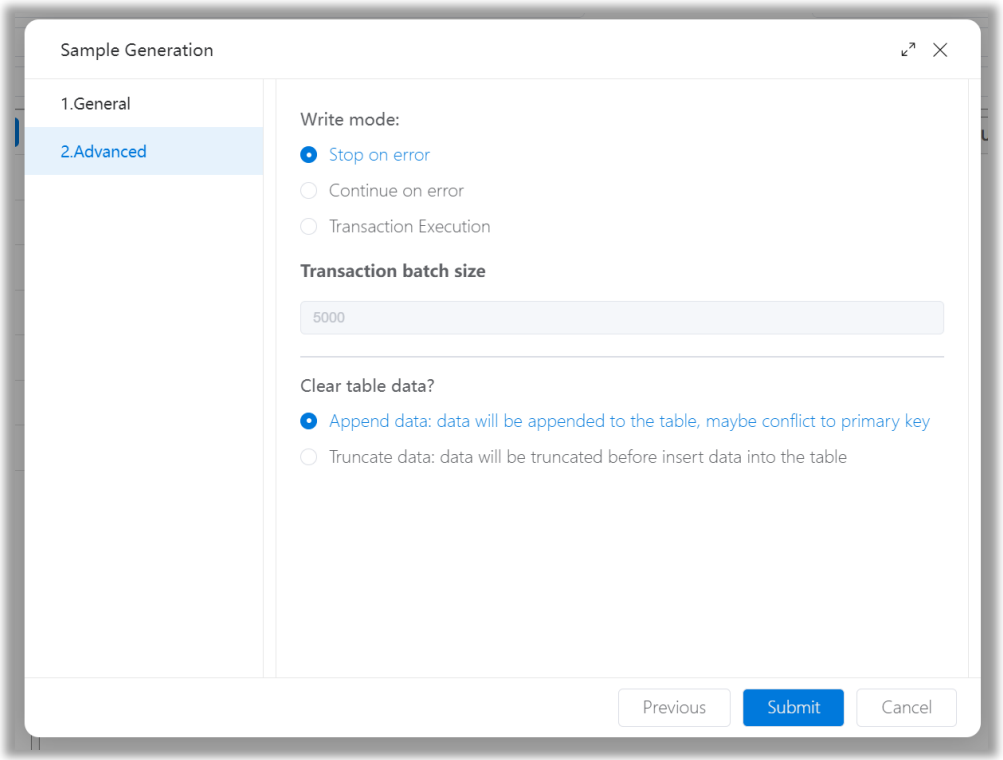
		the currently selected table, copying either "structure and data" or "structure only".
11	Delete	Delete the currently selected table. ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
12	Rename	Rename the currently selected table.
13	Refresh	Refresh

1. Generate Data

Test data can be generated based on table structure. The data generation process operates in the background, and the final results can be viewed in the Task Center under "Generate Data".



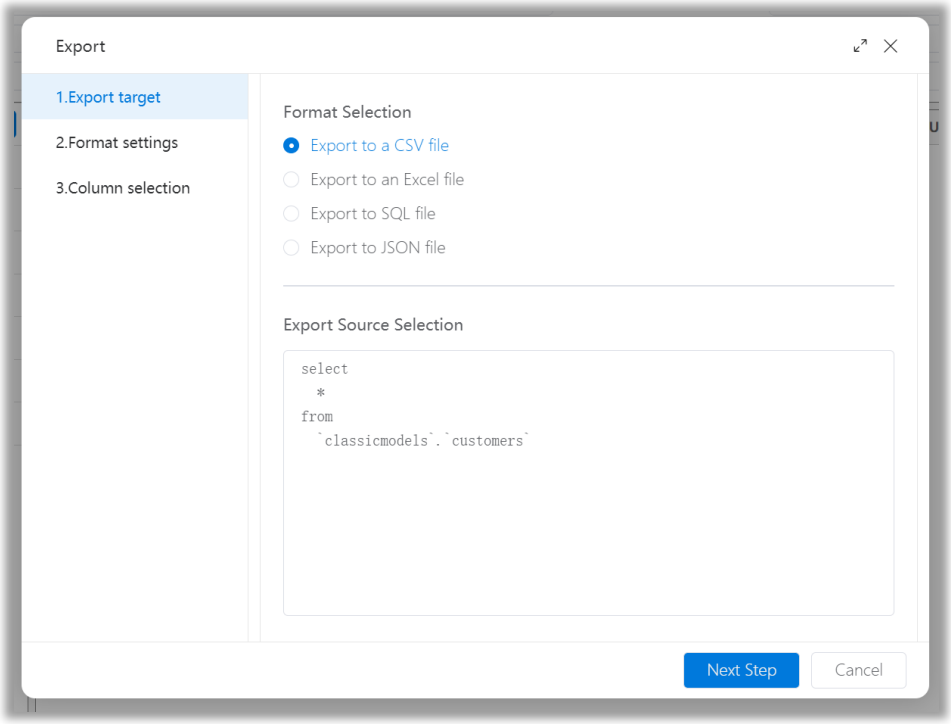
The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.



2. Export Data

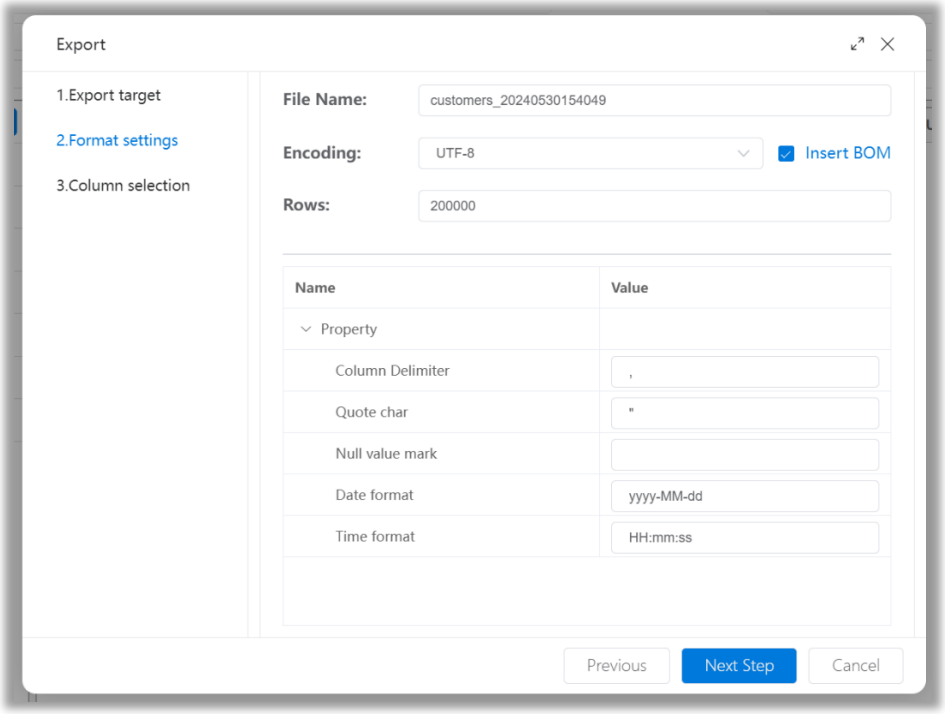
Export the data of the currently selected table to the local system, available in CSV, EXCEL, SQL, and JSON file.

Users can configure the columns of the exported data (all/part), the number of rows, characters, and header format of the export data as needed.



Users can modify the filename, encoding, and number of rows of the exported file as needed.

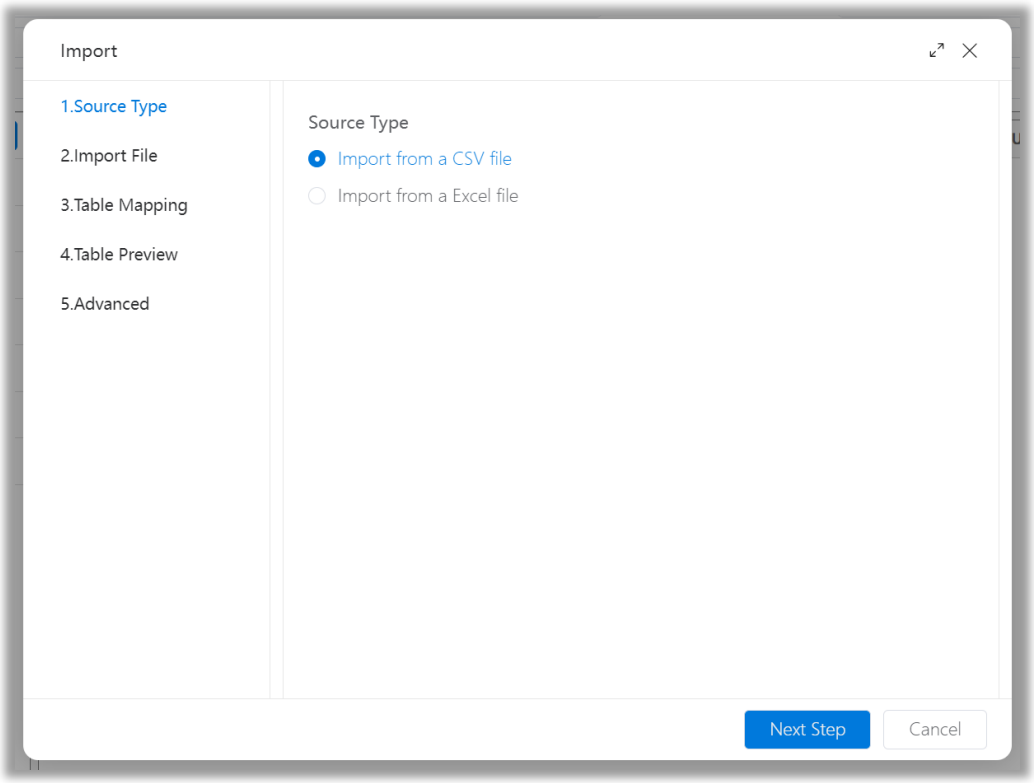
*When the exported file is in CSV format and needs to be opened in Excel, it is recommended to check the "Insert BOM" option for stronger format compatibility.

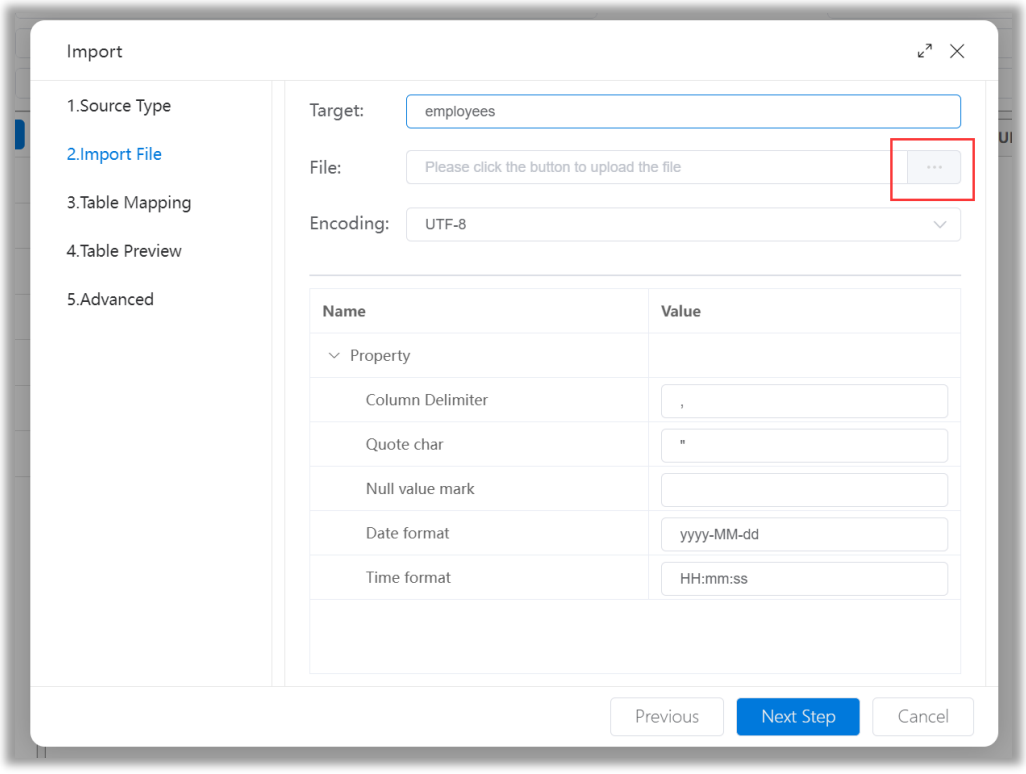


3. Import Data

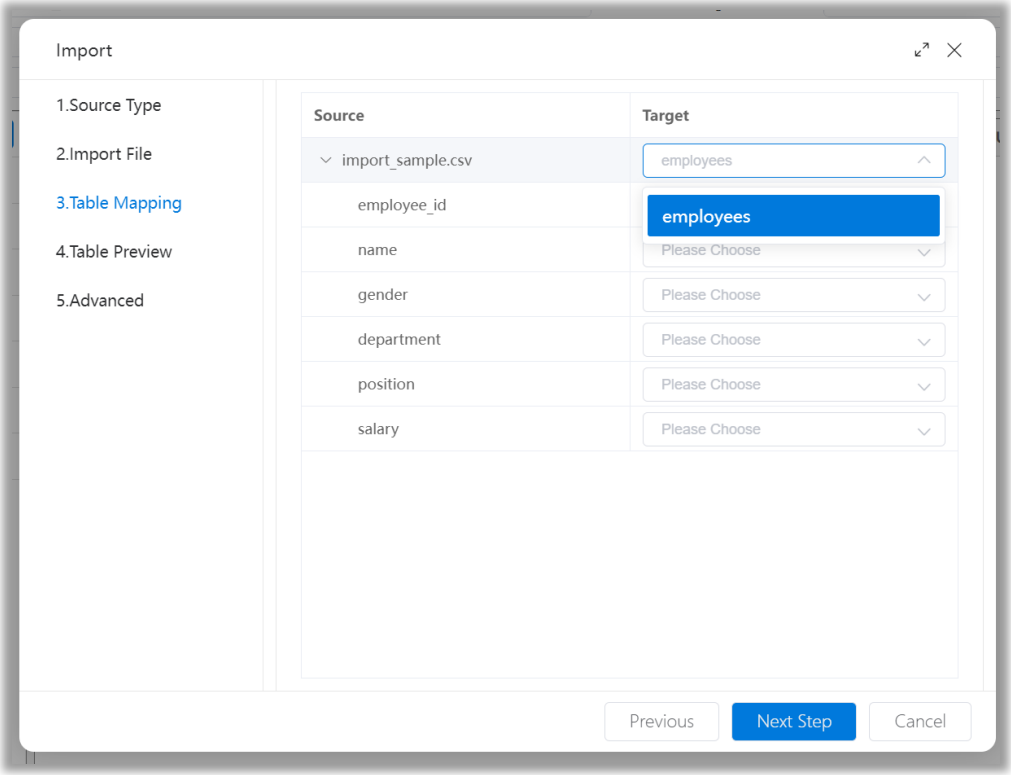
Import a local CSV or Excel file into the currently selected table. (*Importing an SQL file is performed through the context menu in the SQL editor.)

Choose a local CSV or Excel file.

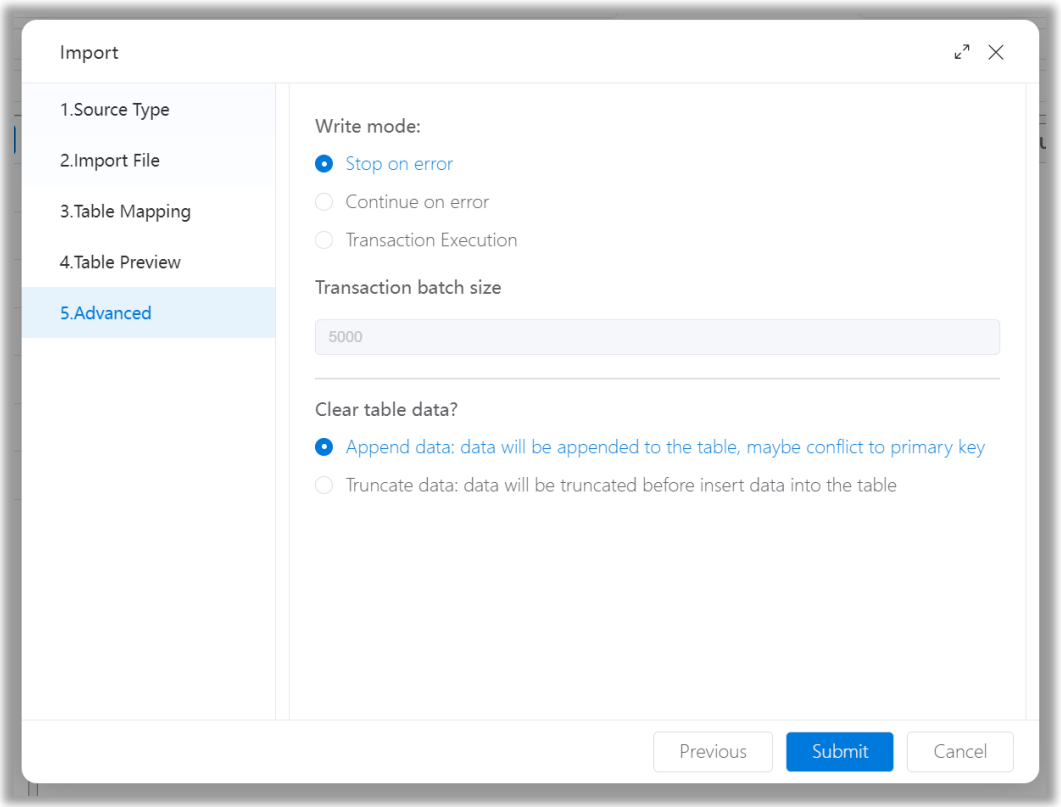




In the "Table Mapping" section, confirm the correspondence between columns.

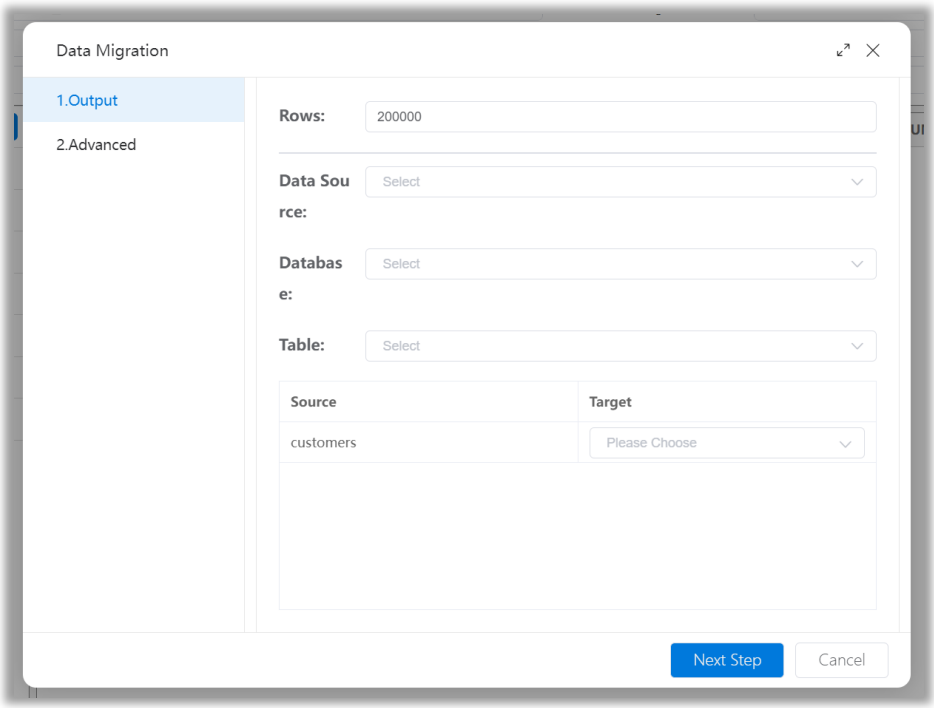


The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

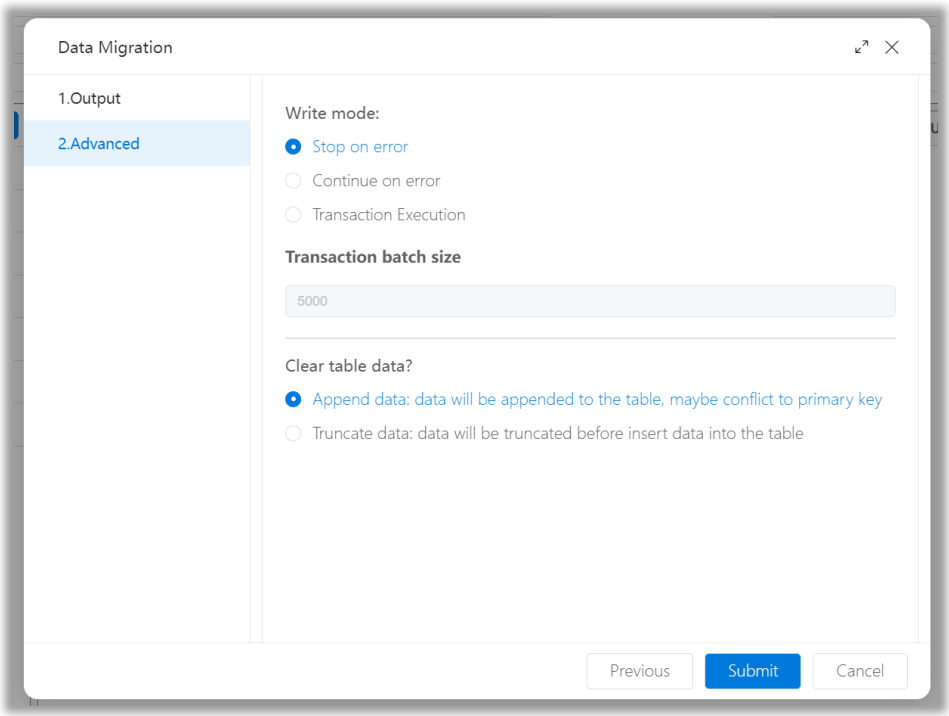


4. Data Migration

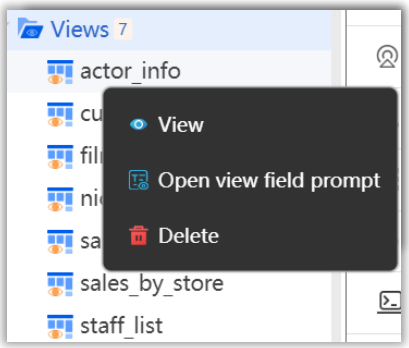
Migrate the data from the currently selected table to another table, with support for transaction execution.



The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

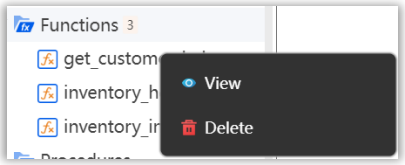


b. View



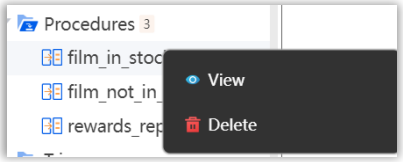
#	Function	Description
1	View	View the details of the currently selected view. The main window will display the object details pane, where you can view the properties and data of the view.
2	Open view column prompt	When open the query window, clicking on the menu function or double-clicking on the current view name will display prompt pane on the right screen.
3	Delete	Delete the currently selected view.

c. Function



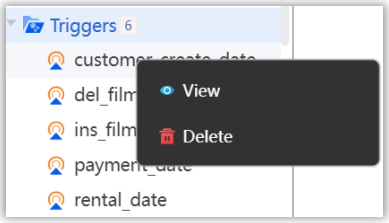
#	Function	Description
1	View	View the details of the currently selected function. The main window will display the object details pane, where you can view the properties of the function.
2	Delete	Delete the currently selected function.

d. Procedure



#	Function	Description
1	View	View the details of the currently selected procedure. The main window will display the object details pane, where you can view the properties of the procedure.
2	Delete	Delete the currently selected procedure.

e. Trigger

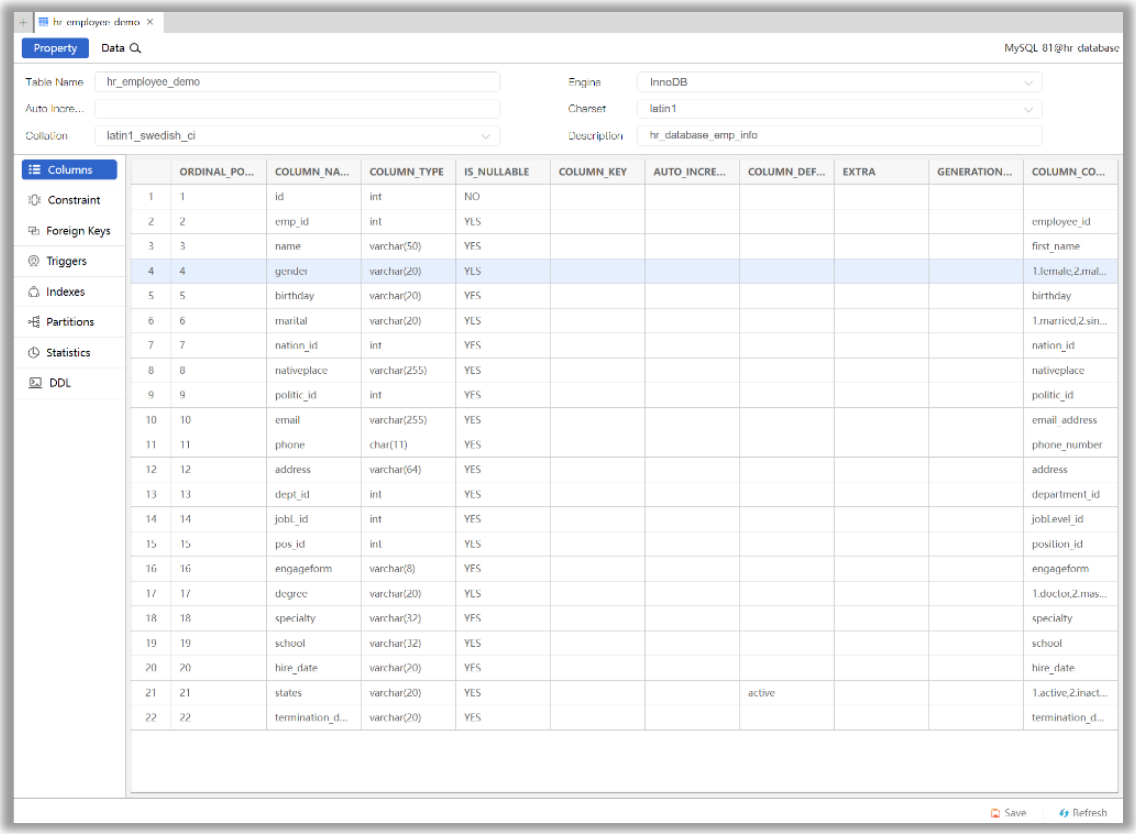


#	Function	Description
1	View	View the details of the currently selected trigger. The main window will display the object details pane, where you can view the properties of the trigger.
2	Delete	Delete the currently selected trigger.

3.2.2 Information Pane

3.2.2.1 Object Details Pane

Located in the middle of the main window, this is where detailed information about objects can be displayed. The object details pane is usually hidden by default, and clicking on any object to select the view function will make it visible.



a. Property

Display detailed properties, settings, and parameters of objects such as tables, views, functions, procedures, triggers, etc.

#	Property	Description	Context Menu	Function
1	Columns	Displays the columns and data structure of the current object.	View	View detailed information of the currently selected column.
			Edit	Modify information of the currently selected column.
			Add	Add a new column.
			Delete	Delete the currently selected column.
			Refresh	Refresh
2	Constraint	Displays primary key information of the current table.	Add	Add a new primary key.
			Refresh	Refresh
3	Foreign Keys	Displays foreign key information of the current table.	N/A	N/A
4	Triggers	Displays trigger information of the current table.	N/A	N/A
5	Indexes	Displays index information of the current table.	Add	Add a new index.
			Refresh	Refresh
6	Partitions	Displays partition information of the current table	N/A	N/A
7	Statistics	Displays statistics information of the current table.	N/A	N/A
8	DDL	Displays DDL information of the current table.	Users can copy the DDL statement and paste it into the SQL editor for use.	

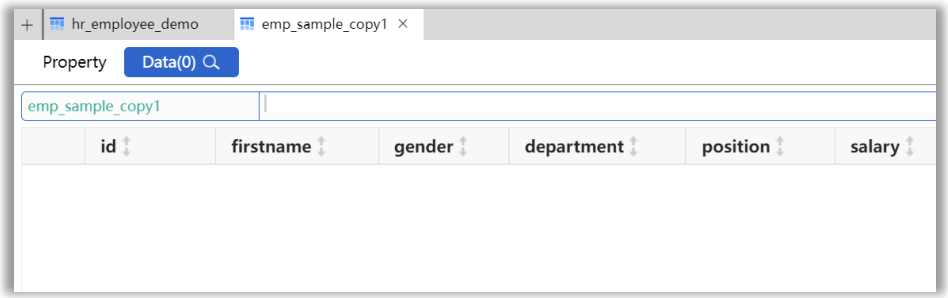
b. Data

Display detailed data for the above objects.

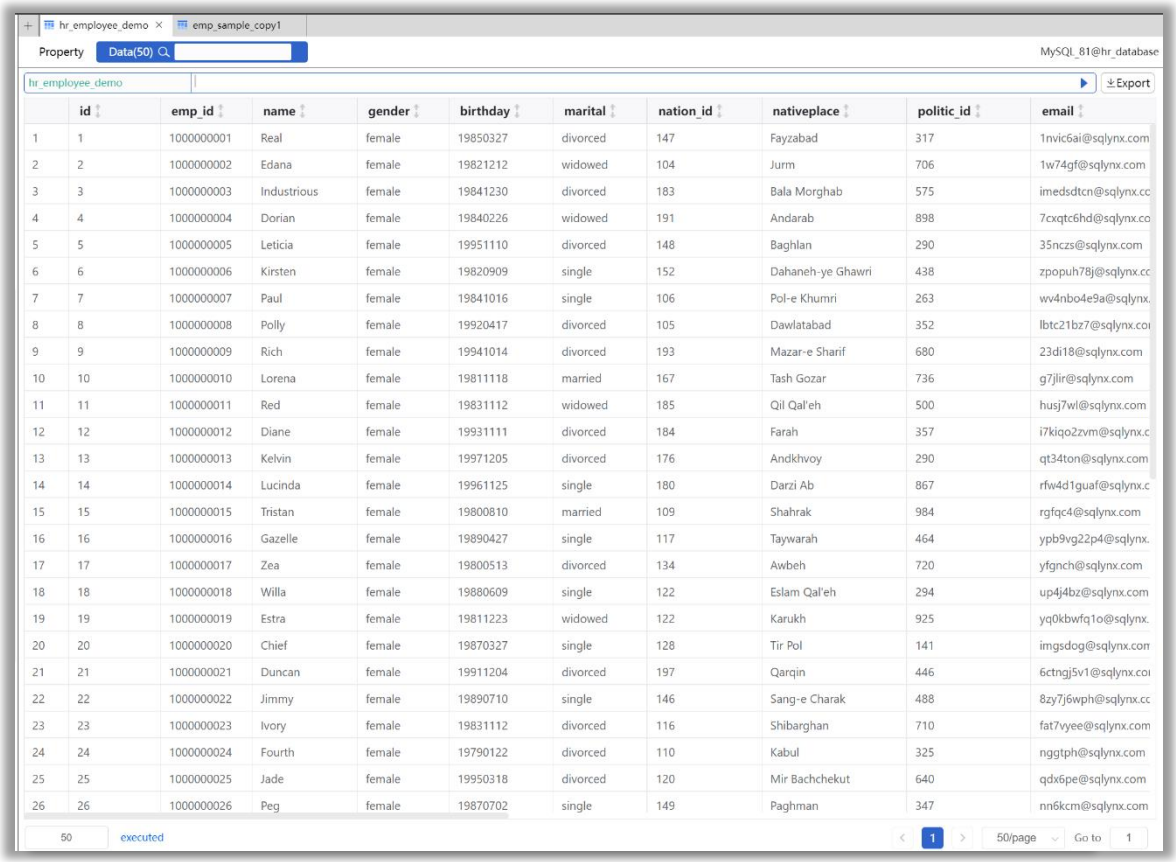
1. No data in the table.

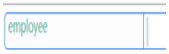
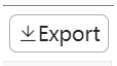
You can right-click in the blank space, select 'Add',

In the popup window, input data according to the configured columns, and execute.



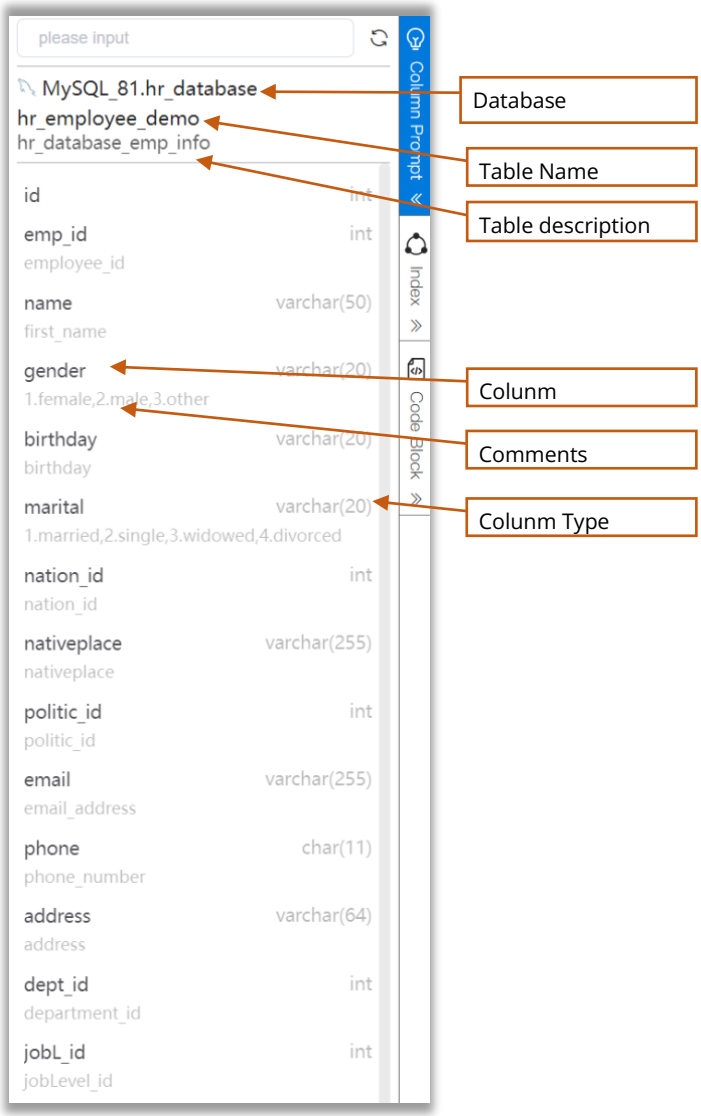
2. Data exists in the table



#	Location	Function	Description
1		Full-text Search	Click the magnifying glass icon on the right side of the "Data" tab to perform a full-text search on the current sample data.
2		Data Filter	Allows filtering of current sample data. Enter statement conditions in the blank box on the right side and click the execute button on the far right, such as: gender='F'. After execution, all data with the value 'F' will be displayed.
3		Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.
4		Export	Export the data of the current table to the local device. Refer to section 3.2.1.4 "Object Operations - Table - Context menu - Export Data".
5		Rows of sample data	Located at the bottom left corner of the data viewer, the default number of rows displayed is 50. Users can manually input any number as needed. After modification, click on the "Execute" button on the right side.

3.2.2.2 Prompt Pane

Located on the right side of the main window, this area displays detailed column information for tables, including colunm names, comments, and colunm types. The table column prompt pane is usually hidden. When open the query window, double-clicking on any table name or right-clicking and selecting "Open Column Prompt" will display it.

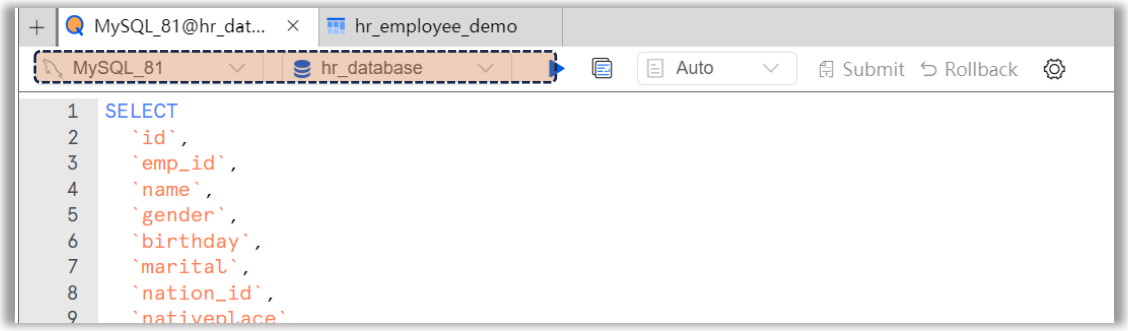


3.2.3 SQL Editor

Located in the middle of the main window, it is usually hidden but will be displayed after creating a new query, revealing the SQL editor page.

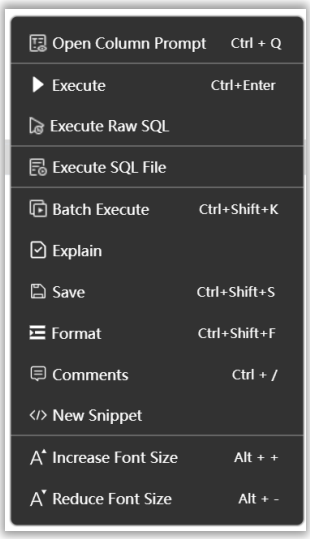
1. Top shortcuts of the SQL editor

Two dropdown boxes below the tabs indicate the current database path information of the SQL editor.



#	Shortcut	**Description**
1	Execute	Quick execution defaults to returning 1000 query results. ***The row count can be modified in the "default row count limit" settings.**
2	Format	One-click formatting of SQL statements for easy readability and inspection.
3	Auto Transaction	SQL transaction functionality allows toggling between automatic and transaction commit.
4	Settings	These settings are only effective for the current query and can be adjusted for “Default Row Count Limit” and “Max Row Count Limit”. Users can choose to keep connection to the current database.

2. Context Menu

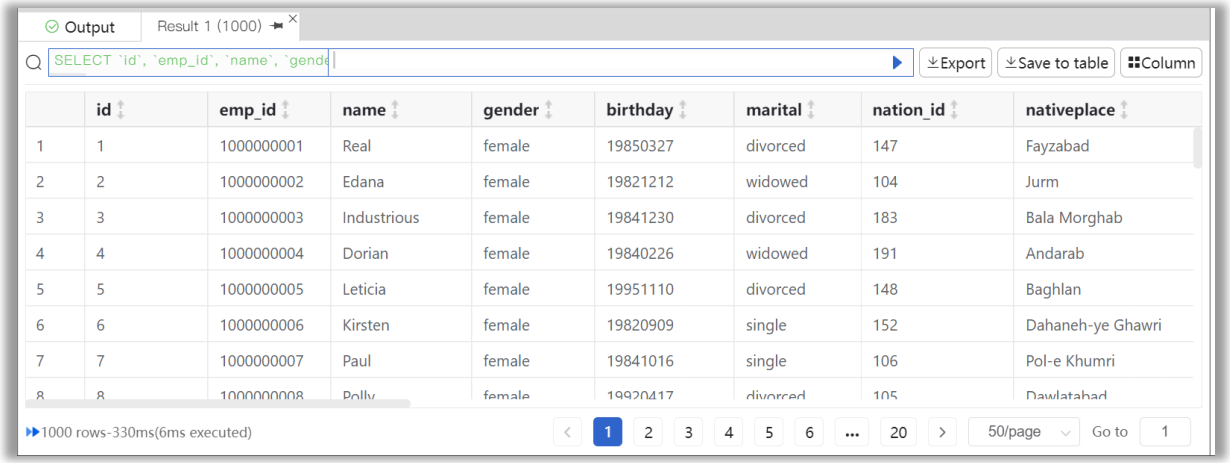


#	Function	Description
1	Open Column Prompt	Selecting the table name text, and clicking opens column prompt, which brings up the corresponding table's column prompt page on the right screen.
2	Execute	Quick execution defaults to returning 1000 query results. (Parameter modifications refer to Section 3.6.4.1 Data Settings)
3	Execute Raw SQL	Execution of Original SQL Statements in the Editing Box. By default, the max row count is set to 10000. (Parameter modifications refer to Section 3.6.4.1 Data Settings)
4	Execute SQL File	Select and Execute Local SQL Files.
5	Batch Execute	Execute SQL statements in batches.
6	Explain	Perform performance analysis on current SQL statements for optimization.
7	Save	Save frequently used SQL statements, with options to copy, modify, or delete.
8	Format	One-click formatting of SQL statements for readability and inspection.
9	Comments	Add comments.
10	New Snippet	Create habitual code blocks, with options to set indexes. Index names can be intelligently prompted in editor status. (All created code blocks can be queried in the personal center.)
11	Increase/Reduce Font Size	Customize the font size of the SQL editor, which is only valid for the current query window created.

3.2.4 Data Viewer

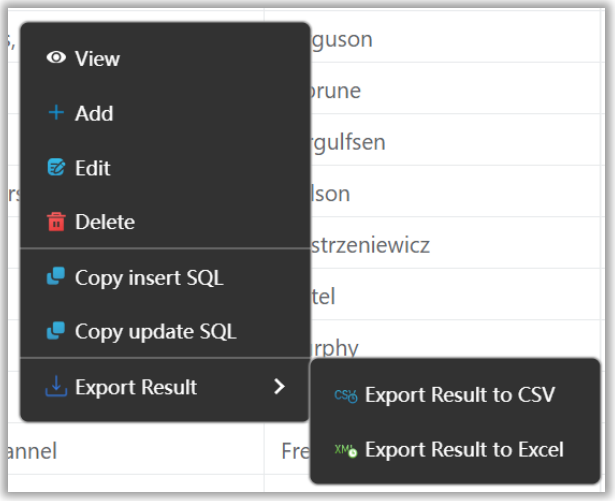
3.2.4.1 Query Result

1. The Data Viewer is located at the bottom center of the main window and displays query results. Double-clicking on the tab name supports full-screen display.



#	Location	Function	Description
1	Output	Output Log	Viewing the output log of query result.
2		Full-text Search	Click on the magnifying glass icon, in the search box, you can perform full-text search on the current query result .
3	select * from `hr_database`.`hr_emplo	Data Filter	You can filter the current query result by entering statement conditions in the blank box on the right side, and then click on the execute button on the far right, for example: gender='F'. After execution, all data values for 'F' will be displayed.
4	Export	Export	Export all data under the current query statement to the local computer. CSV and Excel formats are supported.
5	Save to table	Save to Table	Save the data of the current query result to another table. The operation is the same as "Data Migration."
5	id	Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.

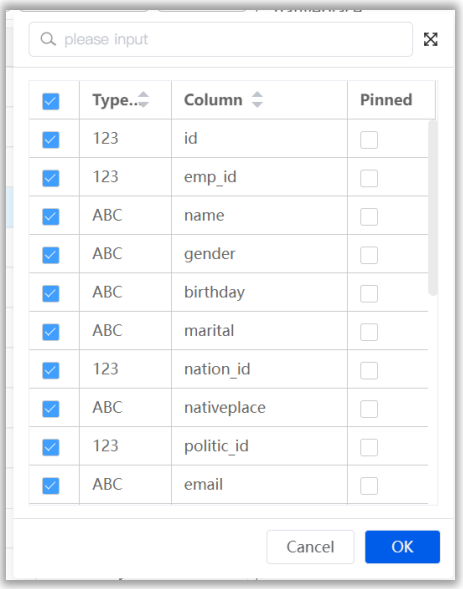
2. Context Menu



#	Function	Description
1	View	Viewing the currently selected single row data, but it cannot be modified in view mode.
2	Add	Inserting single row data into the current table.
3	Edit	Modifying the currently selected single row data, only applicable for single table queries.
4	Delete	Deleting the currently selected single row data.
5	Copy insert SQL	Automatically generating INSERT SQL statements, where the inserted values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
6	Copy Update SQL	Automatically generating UPDATE SQL statements, where the updated values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
7	Export Result	Exporting the query result set returned by the current web page to the local computer. CSV and Excel formats are supported.

3. Column Operations

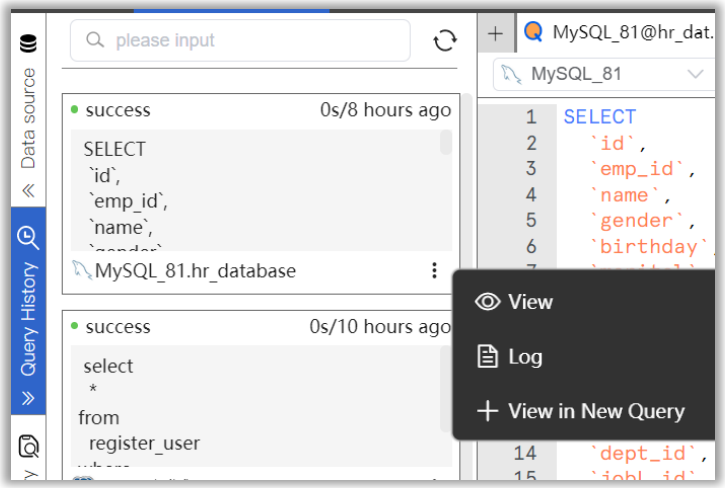
Located at the top right corner of the data viewer, it allows operations such as searching, filtering, sorting, and pinning all columns of the current query result.



#	Location	Description
1	please input	Search for columns within the current table
2	Type..	Sort in ascending or descending order
3		Toggle the checkbox to show/hide the columns you want to view
4	Pinned	Checked columns can be pinned to the leftmost position.

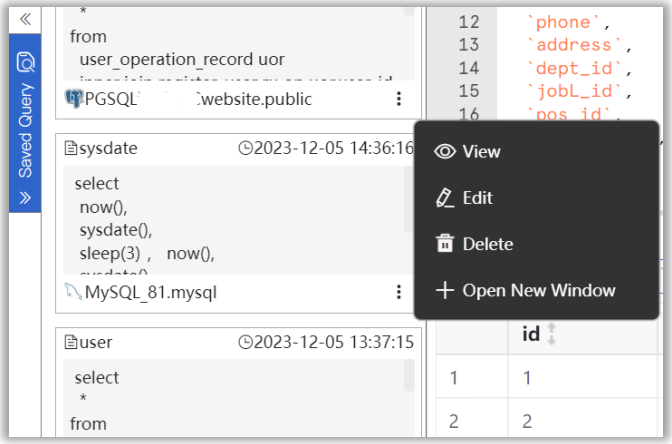
3.2.4.2 Query History

Display the query history executed by the current user. Users can retrieve historical query statements, view the statements, view the logs, or open them in a new window.



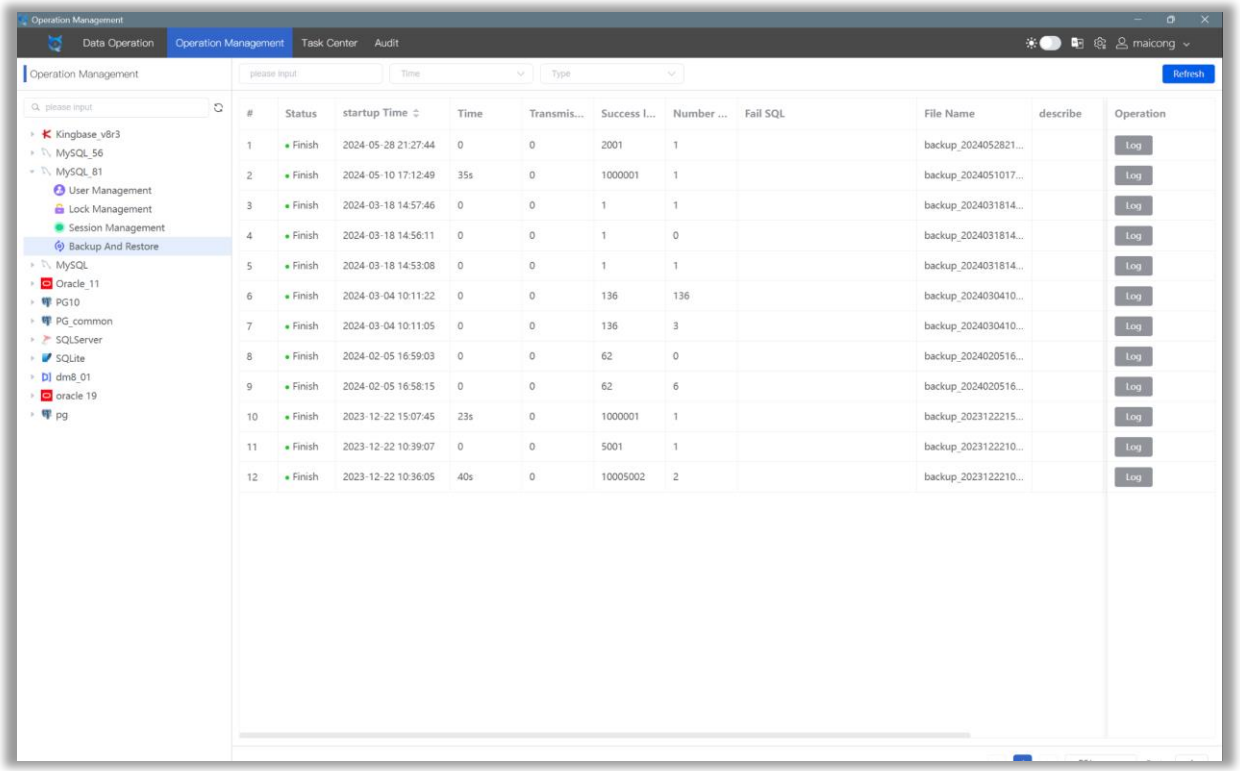
3.2.4.3 Saved Query

Display the commonly used query statements saved by the current user. Users can retrieve saved statements, view, edit, delete, or open them in a new window.

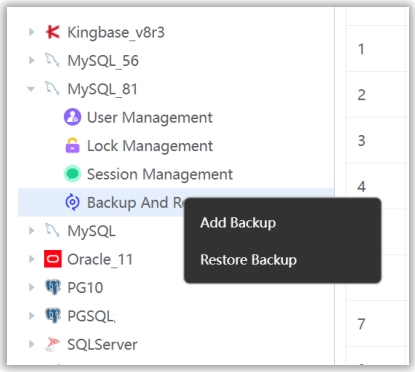


3.3 Operation Management

View user management, lock management, and session management information for the configured data sources. Perform database backup and restoration.



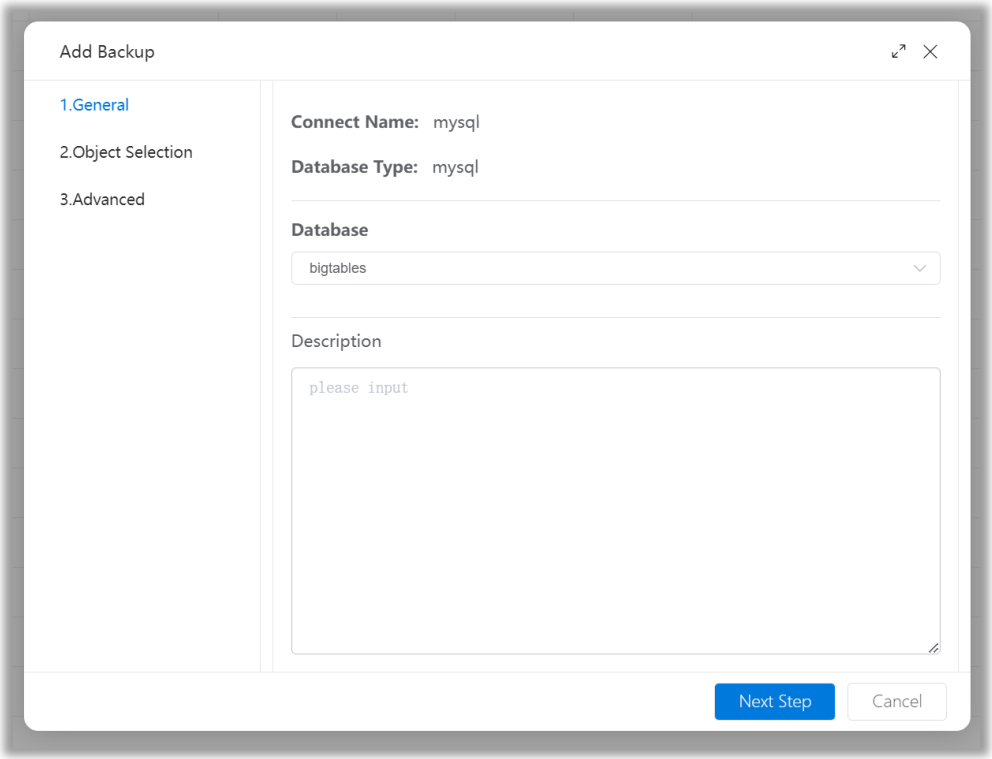
3.3.1 Backup and Restore



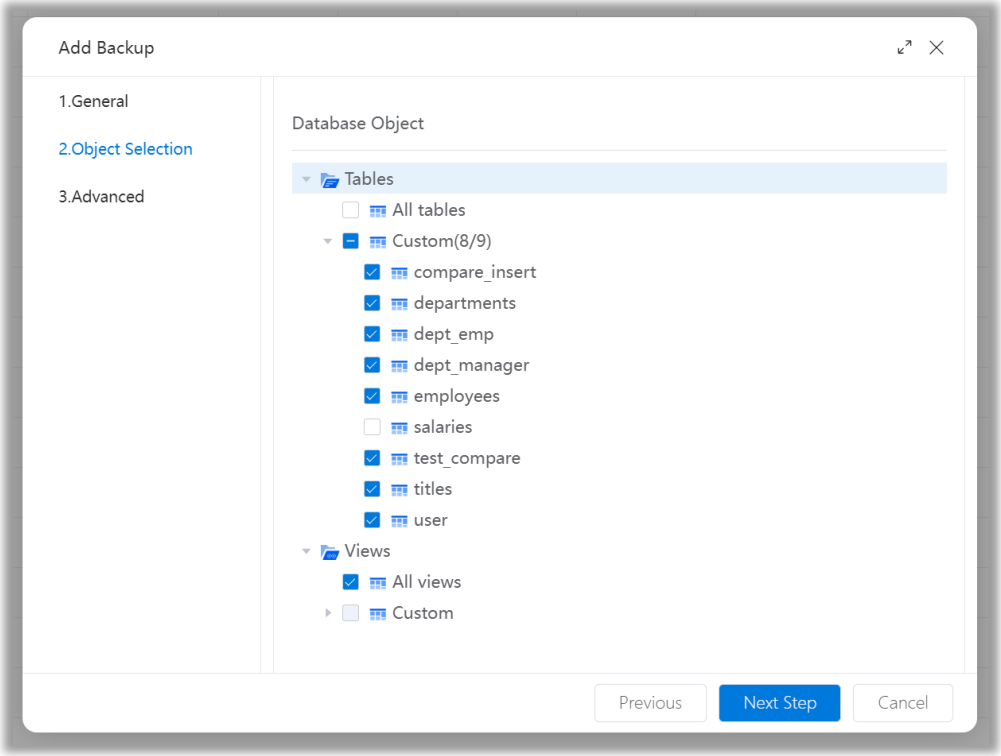
#	Location	Description
1	Add Backup	Backup the data from the currently selected database to a local SQL file.
2	Restore Backup	Restore the data from the backup SQL file to the selected database.

3.3.1.1 Add Backup

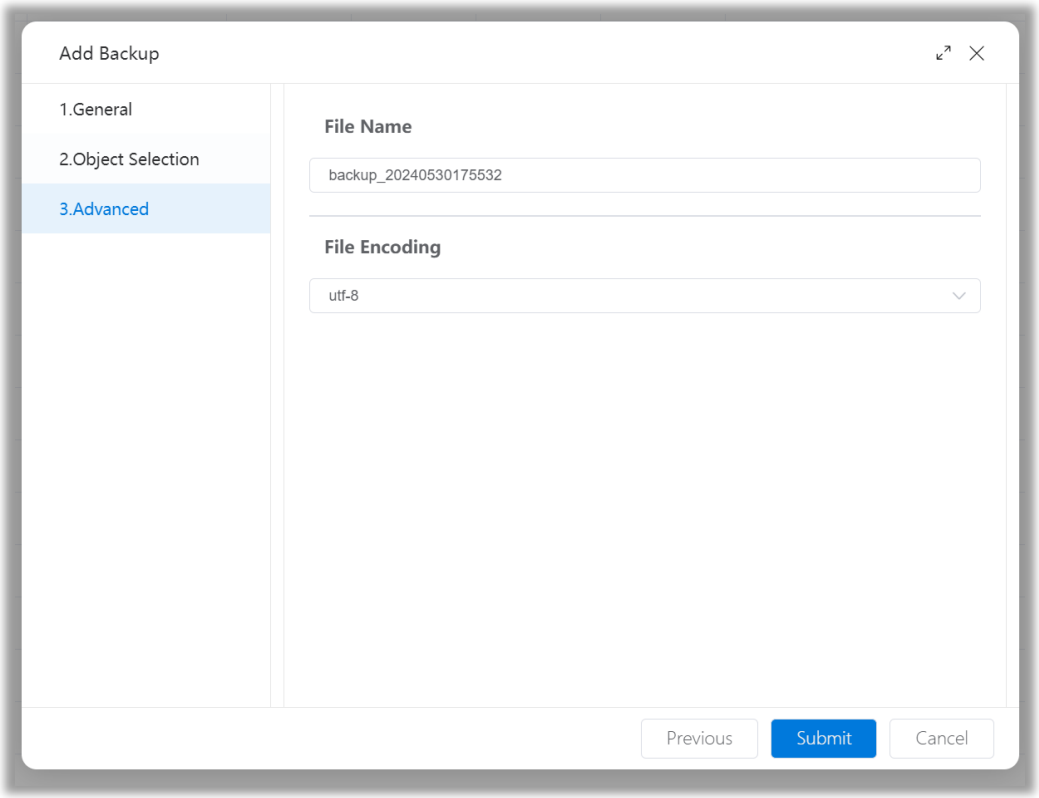
Right-click on the menu and select the "Add Backup" function, then choose the database you want to backup.



You can either select all tables in the database or choose specific tables to backup by customizing your selection.

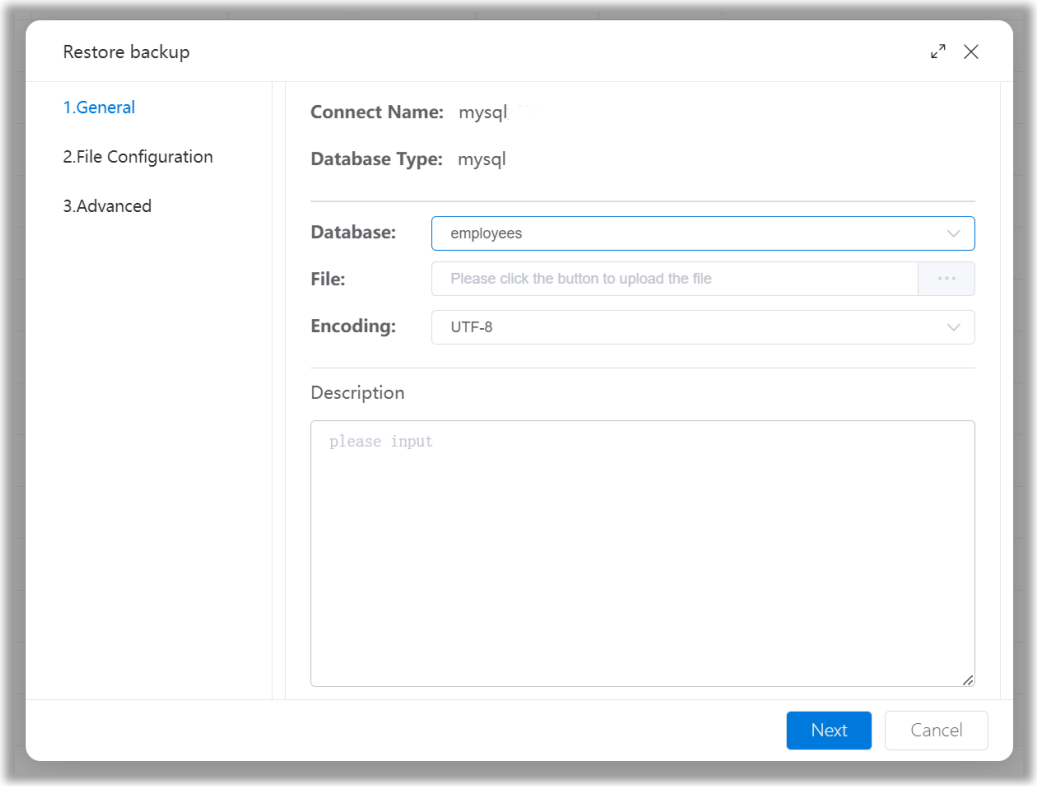


Set the filename and encoding for the backup SQL file, then click "Submit".

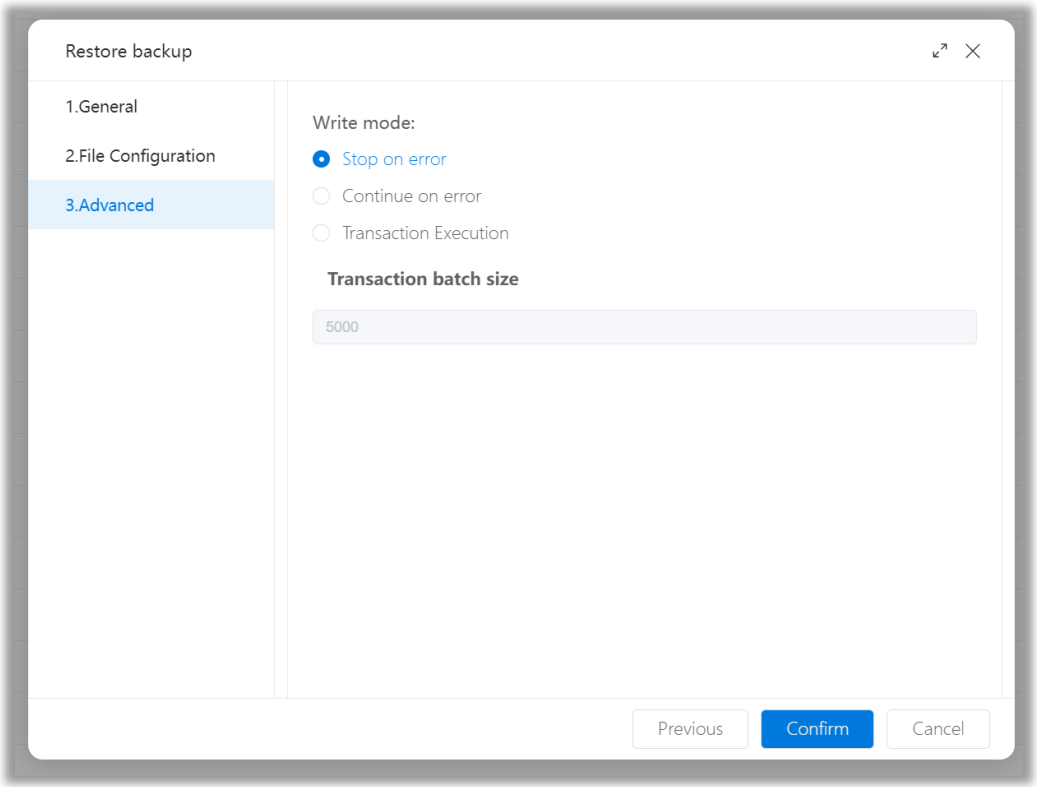


3.3.1.2 Restore Backup

Right-click on the menu and select the restore backup function, then choose the local backup SQL file.



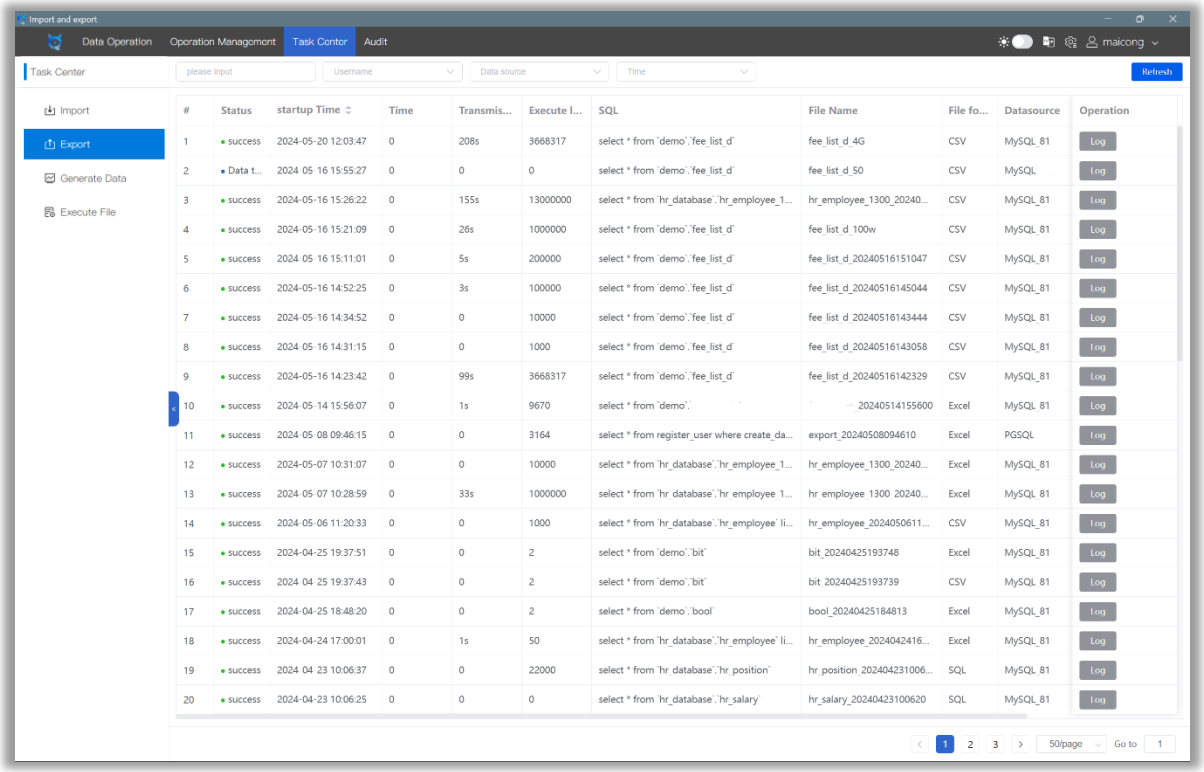
Select whether the restore operation requires transaction execution, and then click "Confirm".



3.4 Task Center

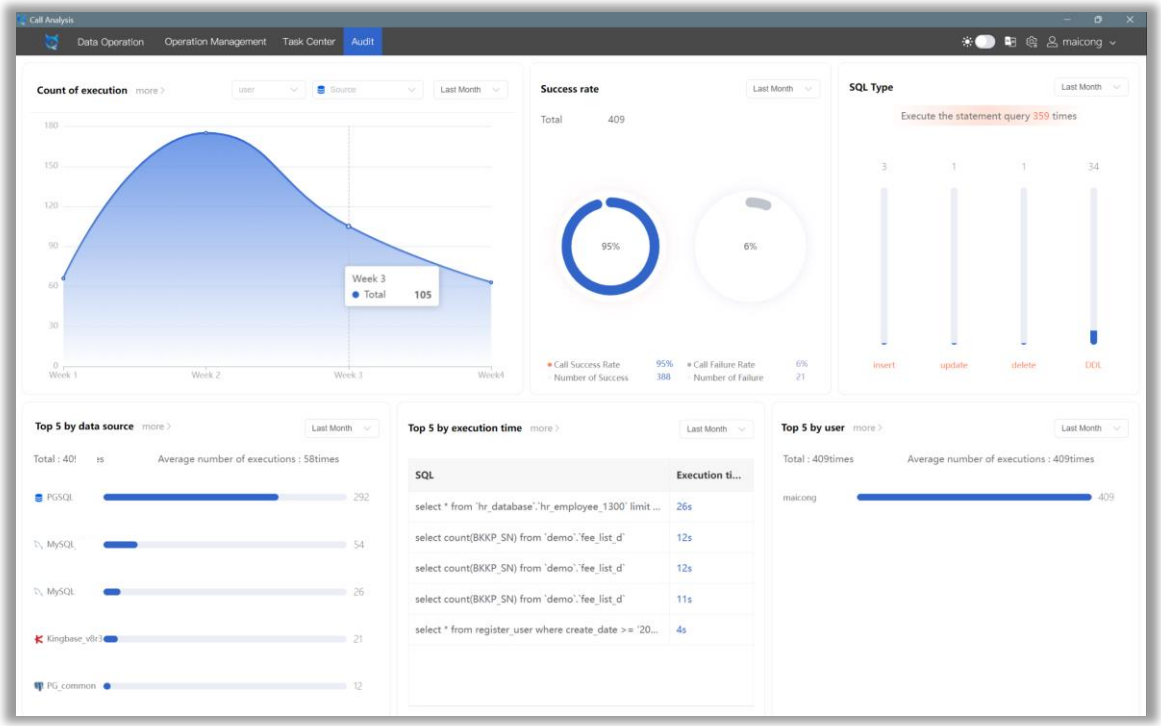
The "Task Center" in the top main menu records user behavior logs related to data import, data export, and generation test data.

If the data generation process takes too long due to a large amount of data being generated, or if there is a need to terminate the data generation operation, you can click on the "Terminate" option in the rightmost action column of the corresponding record in the Task Center to stop the SQL execution operation.

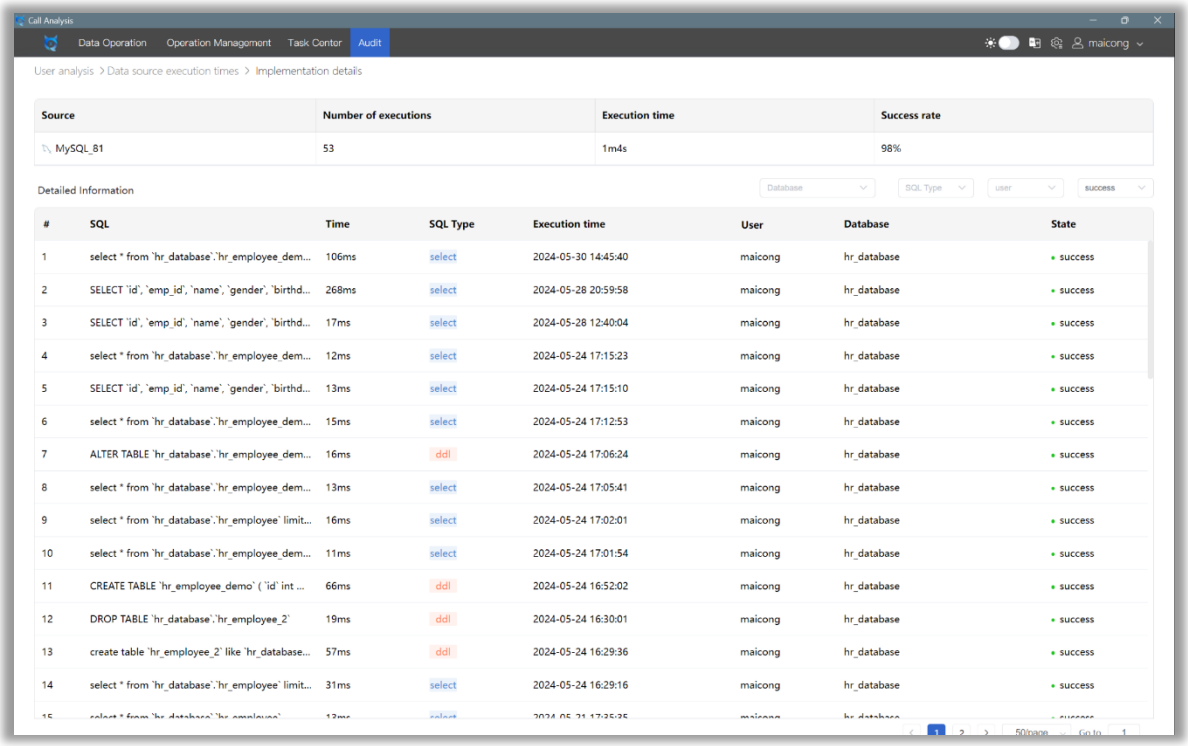


3.5 Audit

Based on operation logs, user behavior records can be automatically analyzed to generate corresponding data visualization charts based on dimensions such as execution frequency, success rate, SQL type, classification by data source, classification by execution time, and classification by operating user.

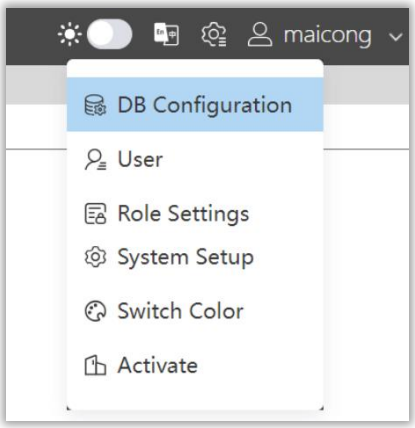


Clicking on "More" allows you to view detailed operation data and filter for export.



3.6 System Setup

Located on the top-right corner of the main menu, here you can operate the system settings for SQLynx.

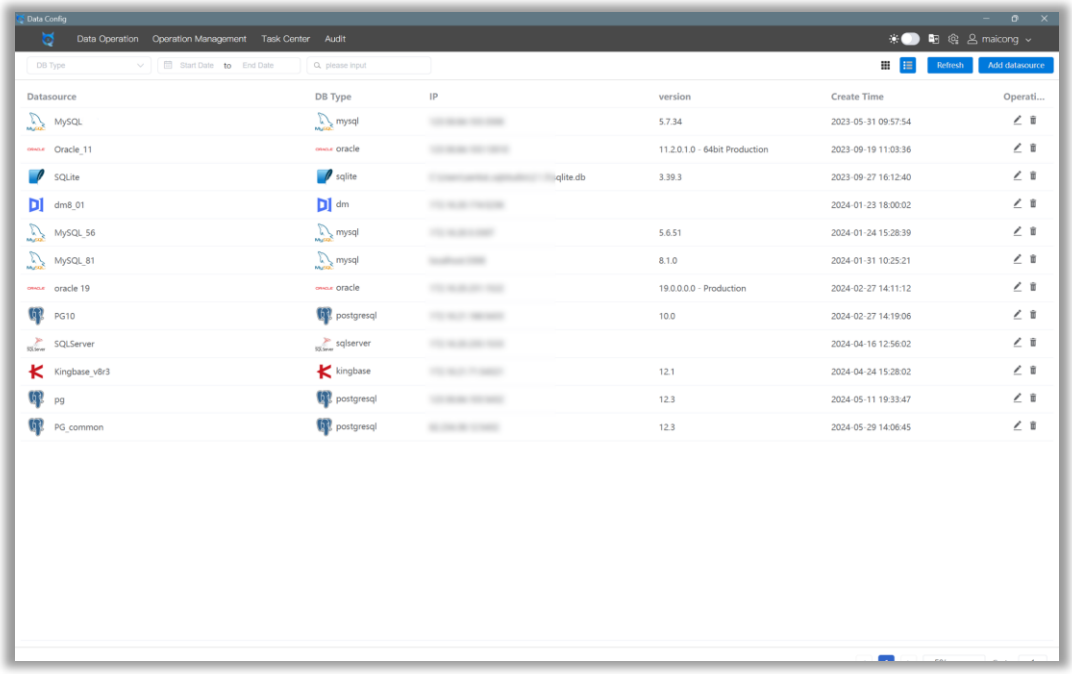


#	Location	Description
1		Switch system mode between light/dark mode
2		Switch between displaying system menus in English or Chinese
3	DB Configuration	Configuration operations for data sources
4	User	Managing user information such as creation, configuration, or deletion
5	Role Settings	Managing group information such as creation, configuration, or deletion
6	System Setup	System displays data, font size, and other global parameter settings
7	Switch Color	Switch theme color
8	Activate	Upload the license file to activate the product

3.6.1 Data Configuration

You can view, add, modify, and delete data sources in SQLynx.

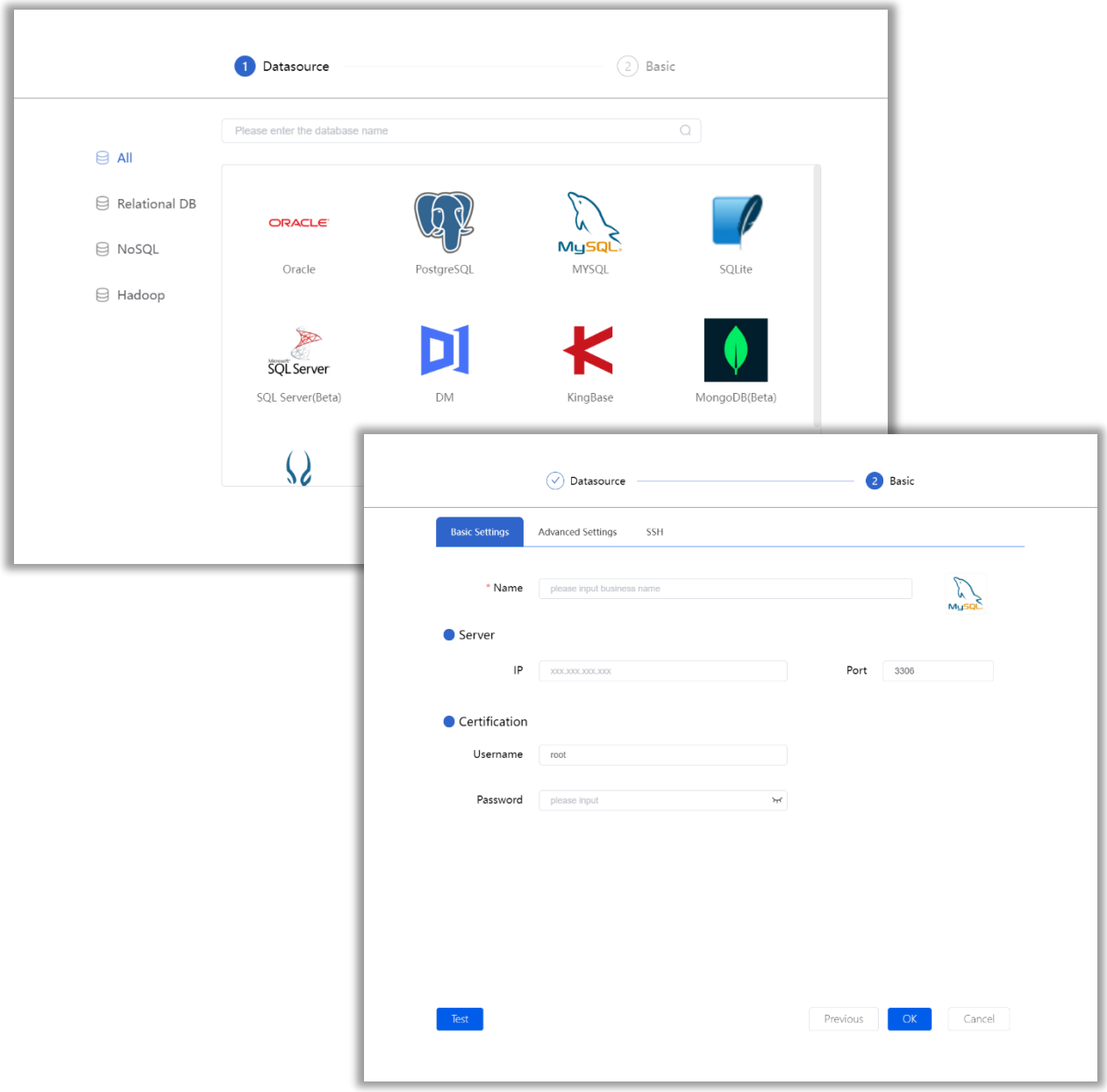
***Note:** In the SQLynx Enterprise, only the [Administrator] account has the permission to configure data source operations.



1. Add Data source：

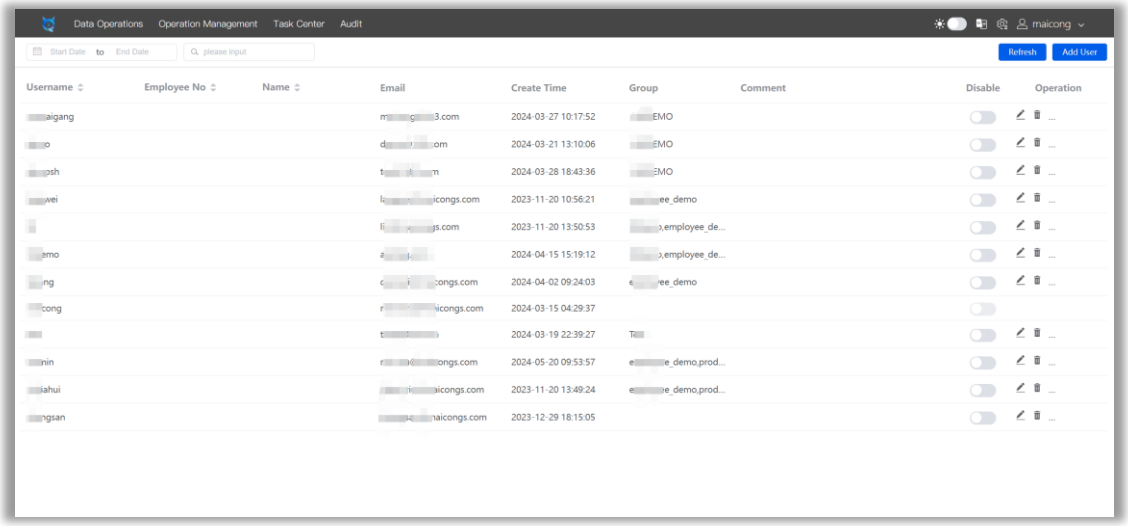
- Click on "Add Data Source.
- In the guided popup window, select the appropriate database and click "Next."
- Enter the basic settings of the data source, such as the business system name, data source address, port number, username, and password.
- If more configuration is needed, click on "Advanced Settings" to replace the database driver version, character set, add connection properties, driver properties, etc.
- Click on "Test" button. If the test is successful, it means the data source can be added. If the test fails, please check if the data source and network connection are correct.

***Note:** For connection properties, driver properties, and other parameters, please refer to the JDBC documentation released by the added data source's official.



3.6.2 User Management

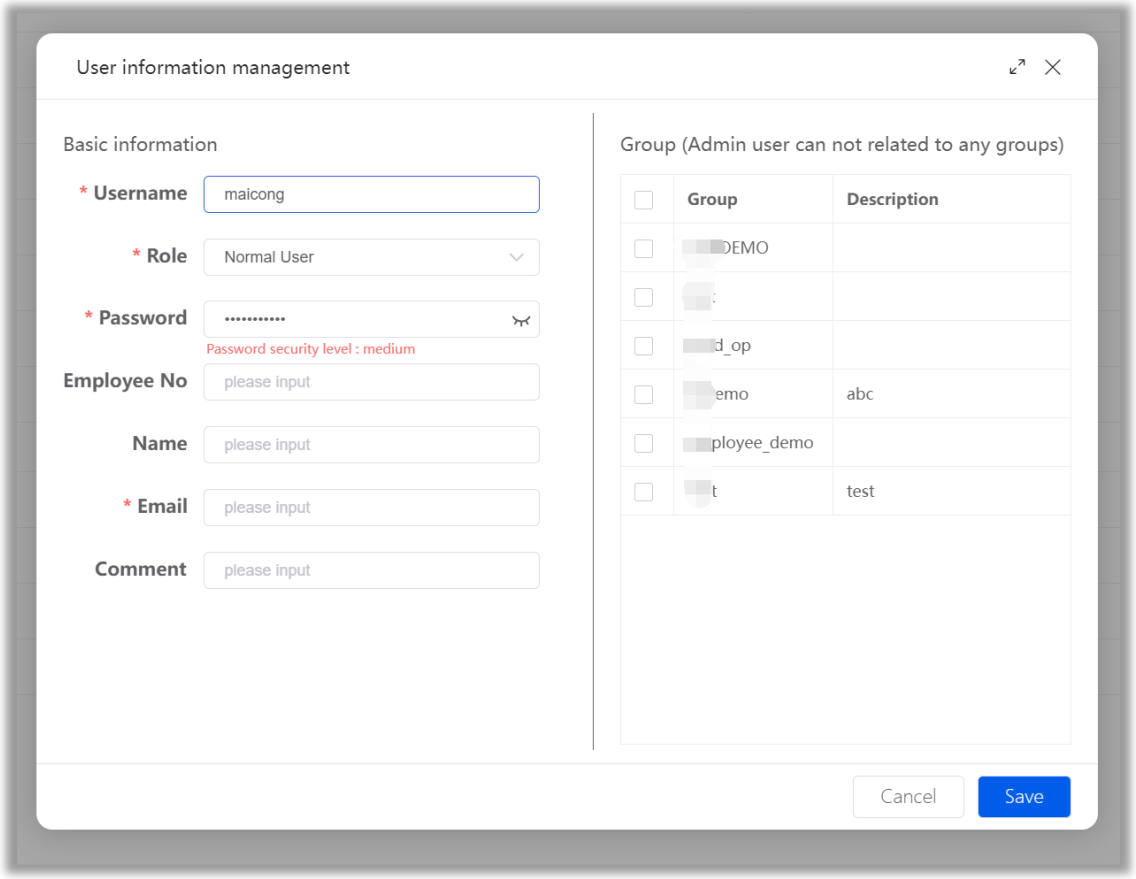
The default login user "maicong" has administrative rights, allowing for the management of all team data sources and member permissions.



#	Location	Function	Description
1	Search box	Search user information	Search for user information under the current admin permissions
2	Refresh	Refresh	Refresh the current page
3	Add User	Add User	Enter information to create a new user
4	Disable	Disable	Disable/Enable login permissions for users under current admin rights
5		Edit	Edit user information under current admin rights
6		Delete	Delete user accounts under current admin rights

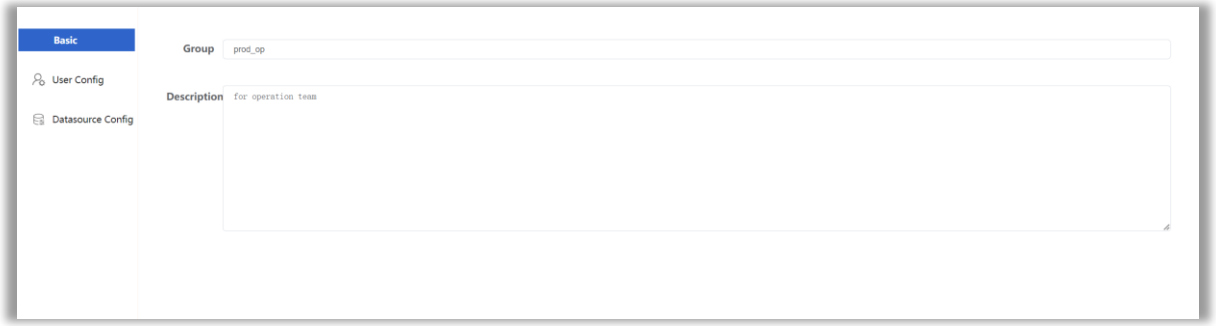
To add a new user: Enter the username, password, and email in sequence, then save.

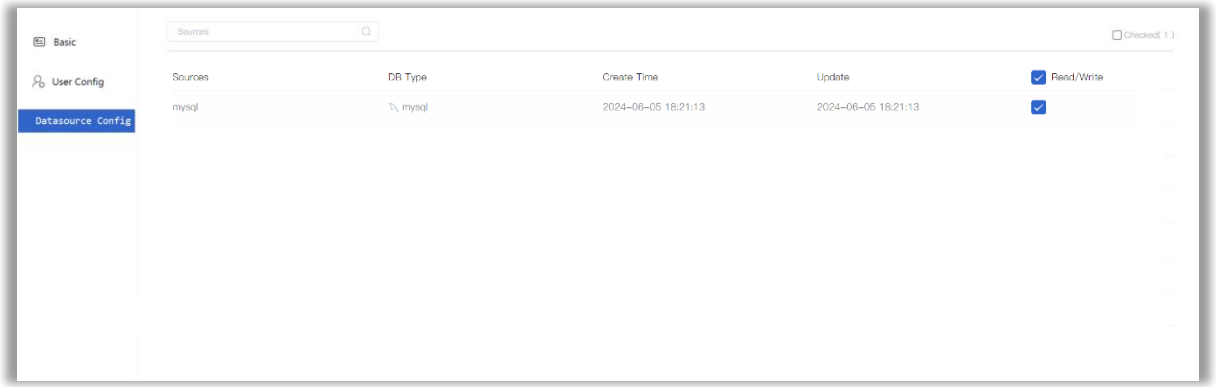
Users can be assigned to different groups based on their permissions.



3.6.3 Role Settings

Group with varying permissions can be created, with the ability to add or remove group members. This setup allows for the management of user permissions for accessing and editing data sources.



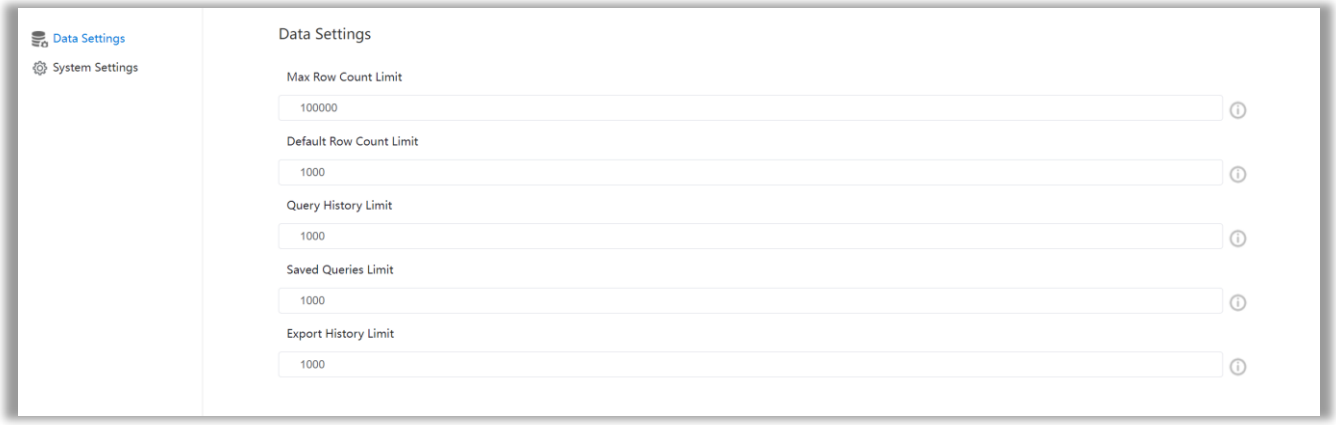


3.6.4 System Setup

You can adjust the settings for query results, JVM, and system theme according to the user's actual usage needs.

3.6.4.1 Data Settings

Based on the user's actual usage needs, you can modify the following data parameters.



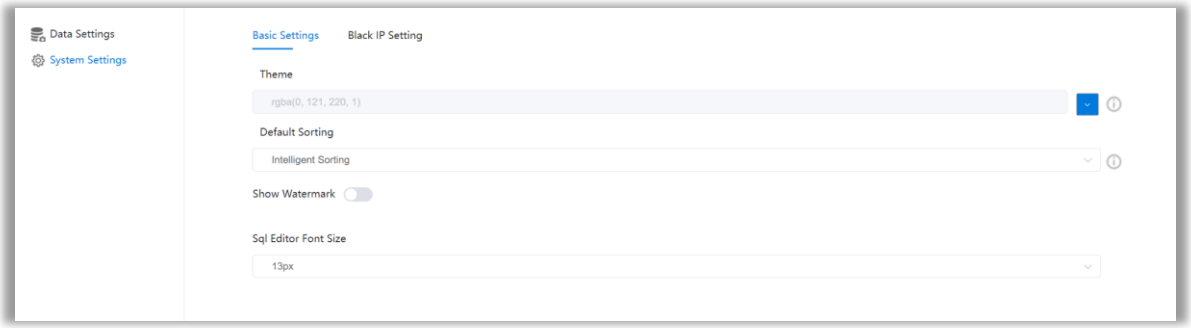
1. Modify to the desired numerical value.

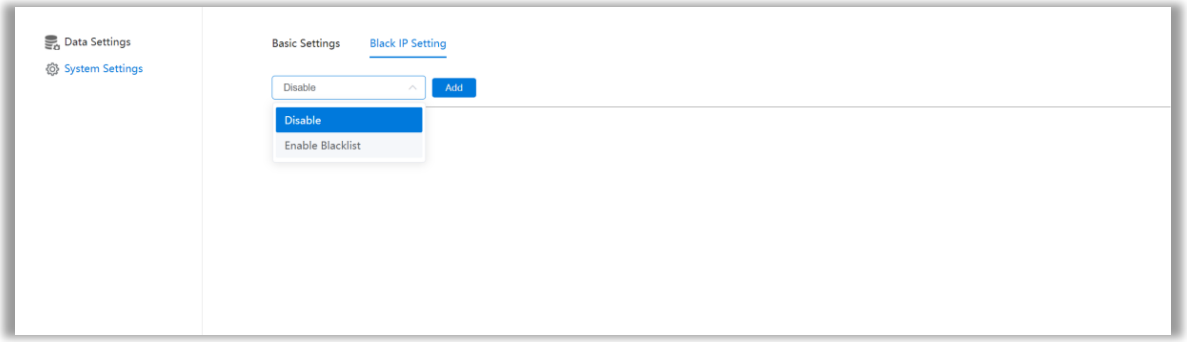
2. After saving, return to the homepage (no need to restart SQLynx).

#	Data Settings	Default	Description
1	Max Row Count Limit	10000	The upper limit of max rows returned when executing query statements in SQLynx.
2	Default Row Count Limit	1000	The upper limit of default rows returned when using "Execute" to query.
3	Query History Limit	1000	The upper limit of query history logs saved in "Query History".
4	Saved Queries Limit	1000	The upper limit of commonly used query statements saved in "Saved Query".
5	Export History Limit	1000	The upper limit of historical export data logs.

3.6.4.2 System Settings

According to the user's actual usage needs, you can modify the theme color and default sorting. After modification, save it without the need to restart SQLynx.





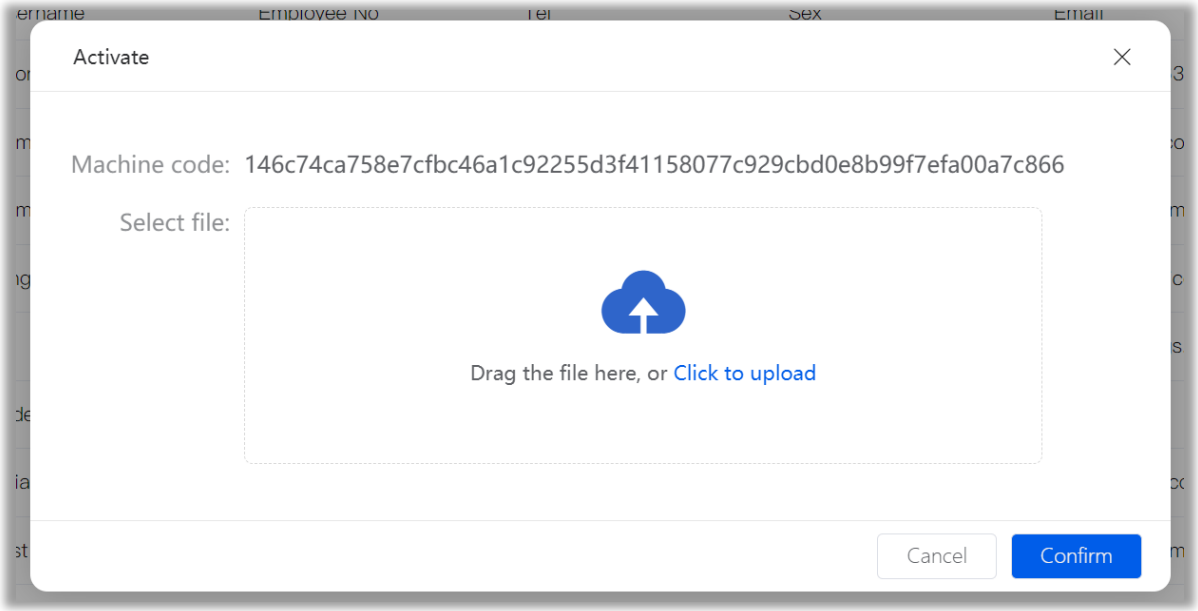
#	System Settings	Default	Description
1	Theme	Color Parameters	Default theme color scheme, can be customized according to user preferences
2	Default Sorting	Intelligent Sorting	default sorting rule within SQLynx
3	Show Watermark	Off	Option to toggle whether to display watermark
4	SQL Editor Font Size	13px	Option to set the font size of the SQL editor (applies to all SQL editors)
5	Blacklist Setting	Disable	Option to enable or disable the blacklist feature

3.6.5 Switch Theme

You can switch between the default orange, blue, and purple theme colors.

3.6.6 Activate

When purchasing or renewing software products, you can upload the license file provided by SQLynx here to activate the SQLynx Enterprise.



3.7 Account

3.7.1 My Profile

1. Modify Login Password

Click on "Settings" to modify the password in the pop-up window。

2. Saved SQL

Display the user's "Saved Query" records, with options to modify, copy, or delete.

3. Snippets

Display the user's "Code Blocks" records, with options to modify or delete.

4. Preferences

Display the user's current theme color scheme and default sorting rules.

3.7.2 Support

SQLynx Offical Website: https://www.sqlynx.com

3.7.3 Feedback

Send an email to **service@sqlynx.com** for assistance.

3.7.4 About Us

Display the SQLynx version, Java version, and server time currently in use by the user.

3.7.5 Sign Out

Sign out of the SQLynx account.

4. SQLynx Premium

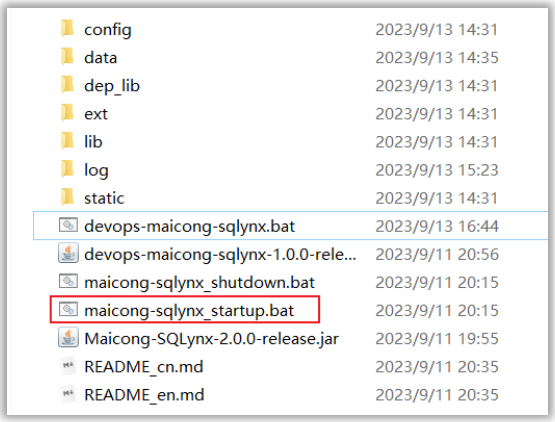
4.1 Startup

4.1.1 Windows Version

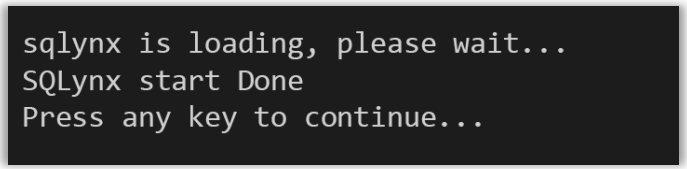
4.1.1.1 SQLynx Startup

1. Download and unzip the SQLynx package locally. After unzipping, a folder named 'sqlynx' will be created, navigate to its directory.

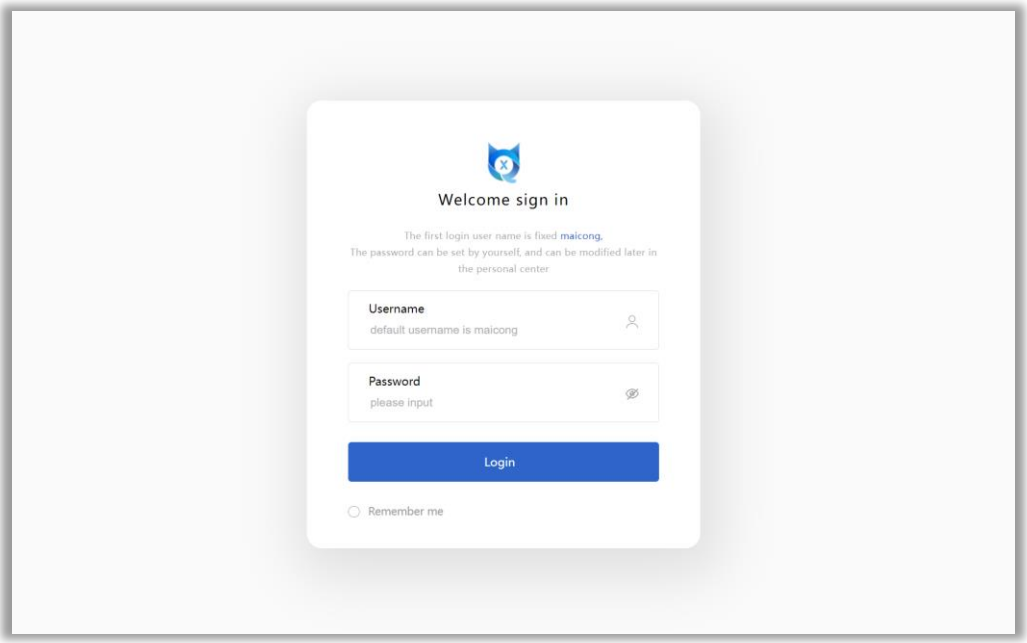
2. In the folder, double-click the “maicong-sqlynx_startup.bat” file.



3. After double-clicking the maicong-sqlynx_startup.bat file, a command window will pop up.



4. The SQLynx login page will automatically open in your browser, indicating successful deployment. If it does not automatically redirect, manually launch your browser and navigate to http://<server IP address>:18888. The default port is 18888, which supports custom port number modification.

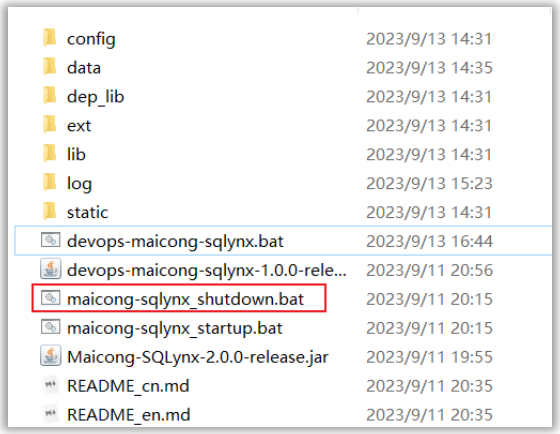


5. Log in with your username and password. The default username is “maicong,” and the initial password is set by the user input.

6. After logging in, only the WEB client of SQLynx is available; desktop client is not supported.

4.1.1.2 SQLynx Shutdown

1. Go to the sqlynx folder, double-click the maicong-sqlynx_shutdown.bat file.



2. A command window will pop up, indicating the server has been shut down.

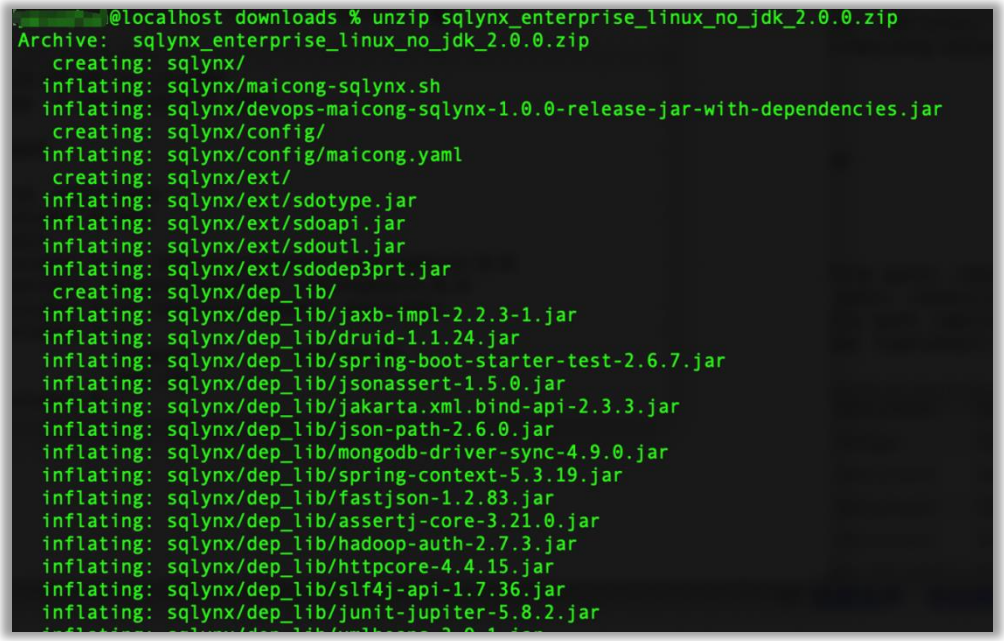
```
killing Maicong-SQLynx
start kill pid 20388 Maicong-SQLynx-3.0.0-release.jar
SUCCESS: The process with PID 20388 has been terminated
kill Maicong-SQLynx Done!
Press any key to continue...
```

4.1.2 Linux Version

4.1.2.1 SQLynx Startup

1. Download the SQLynx package and unzip it to the current folder with the command unzip <filename>

**Example: unzip sqlynx_enterprise_linux_no_jdk_2.0.0.zip*



You can also unzip to a specific directory using the command

unzip <filename> -d <path>

If unzip is not installed, you can install it with the command

yum install -y unzip zip

2. After unzipping, a folder named 'sqlynx' will be created. Enter the directory with the command cd sqlynx

```
[redacted]@localhost downloads % cd sqlynx
[redacted]@localhost sqlynx %
```

3. By running the ls command, you can see a file named maicong-sqlynx.sh in the directory

```
[redacted]@localhost sqlynx % ls
Maicong-SQLynx-2.0.0-release.jar                devops-maicong-sqlynx-1.0.0-release-jar-with-dependencies.jar
README_cn.md                                    devops-maicong-sqlynx.sh
README_en.md                                    ext
config                                          lib
data                                            maicong-sqlynx.sh
dep_lib                                         static
```

4. Execute the command: ./maicong-sqlynx.sh

You will see the following prompt:

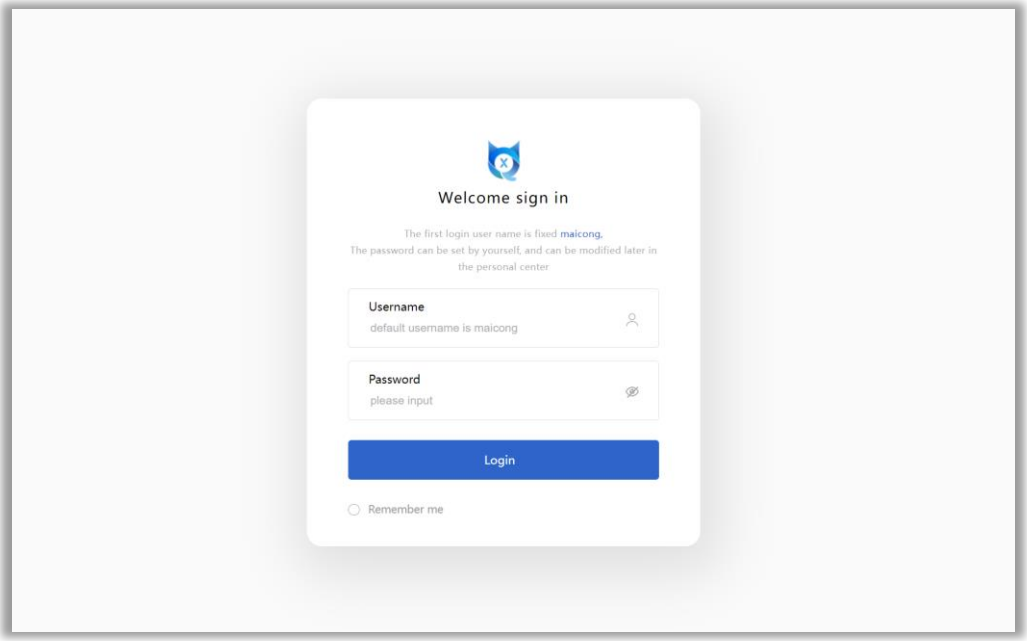
```
[redacted]@localhost sqlynx % ./maicong-sqlynx.sh
************************************************
**                                            **
**          maicong-sqlynx  commands          **
**                                            **
************************************************
**        sh  maicong-sqlynx.sh start         **
**        sh  maicong-sqlynx.sh stop          **
**        sh  maicong-sqlynx.sh restart       **
************************************************
```

5. Execute the command sh maicong-sqlynx.sh start to start the service

```
[redacted]@localhost sqlynx % sh  maicong-sqlynx.sh start
                 _                                  _
 _ __ ___   __ _(_) ___ ___  _ __   __ _   ___  __| |_   _ _ __  __  __
| '_ ` _ \ / _` | |/ __/ _ \| '_ \ / _` | / __|/ _` | | | | '_ \ \ \/ /
| | | | | | (_| | | (_| (_) | | | | (_| | \__ \ (_| | |_| | | | | >  <
|_| |_| |_|\__,_|_|\___\___/|_| |_|\__, |  |___/\__,_|\__, |_| |_|/_/\_\
                                   |___/                |___/

-e maicong-sqlynx server is started
JAVA_OPTS:
-server
-Xms256m
-Xmx4g
-XX:+UseG1GC
-XX:+UseStringDeduplication
-Xloggc:./log/maicong-sqlynx-gc.log
-XX:+HeapDumpOnOutOfMemoryError
-XX:HeapDumpPath=./log/maicong-sqlynx-heapdump
-Dfile.encoding=utf-8

-e please waiting start

-e maicong-sqlynx server start complete
```

6. After starting, you can access the SQLynx web page by using a browser to navigate to http://<server IP address>:18888. The default port is 18888, and it supports customization.

The appearance of the login page indicates a successful installation of SQLynx.

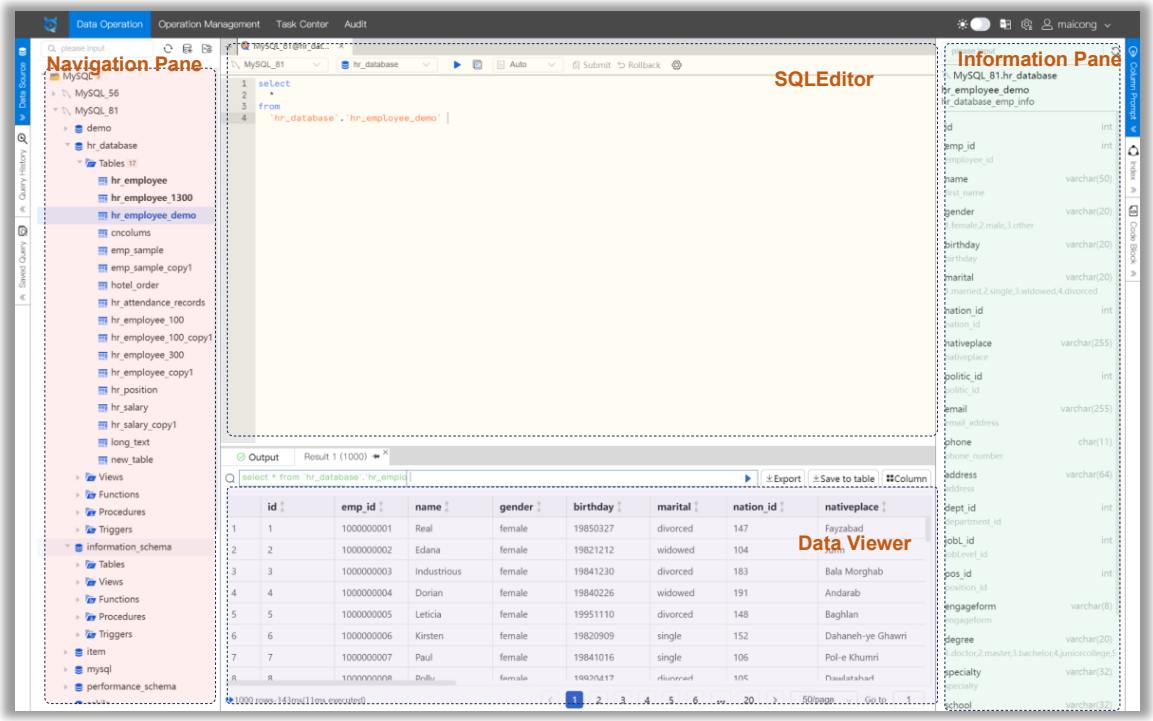


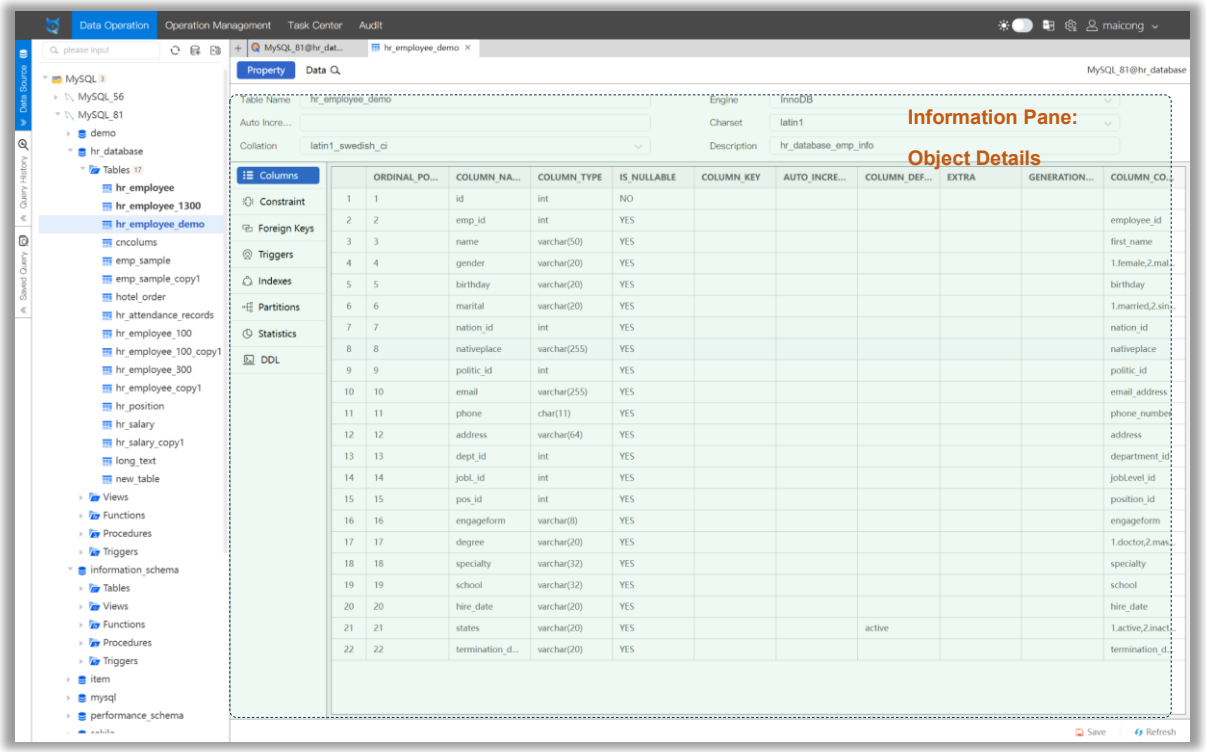
7. Login with your username and password. The default username is “maicong” with the initial password set by the user input.

8. After logging in, only the WEB client of SQLynx is available; desktop client is not supported.

4.2 Data Operation

The data operation module of SQLynx is composed of several areas: the navigation pane, information pane, SQL editor, and data viewer.



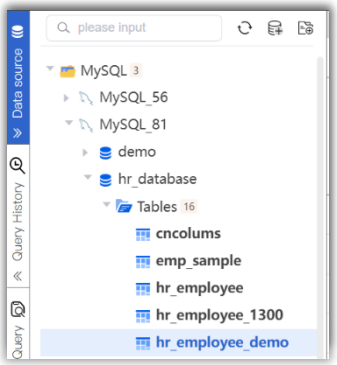


4.2.1 Navigation Pane

The navigation pane is located on the left side of the main window, featuring a tree structure.

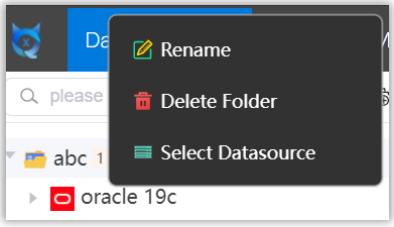
It allows browsing information of all successfully added data sources, databases, and database objects.

The related operational functions are accessible through the right-click context menu of the mouse.



#	Location	Description
1	please input	Search for database names, object names ***Supports fuzzy search; case-sensitive。**
2		Refresh
3		Add data source (refer to steps in "System Settings - Data Configuration")
4		Create folder

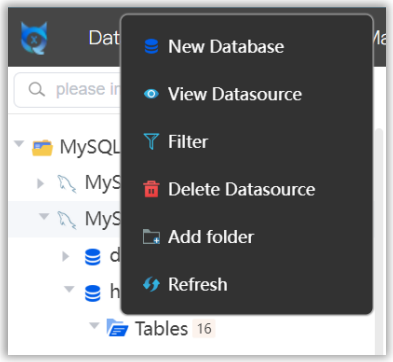
Right-click on the folder, the following menu appears.



#	Function	Description
1	Rename	Rename the currently selected folder
2	Delete Folder	Delete the currently selected folder ***Only delete the folder, the data sources within it will not be deleted; after the folder is deleted, data sources will automatically be moved out and returned to the navigation pane。**
3	Select Datasource	Configure the addition and removal of data sources for the currently selected folder

4.2.1.1 Add Database

Right-click on data source in the navigation pane, and the following menu appears.

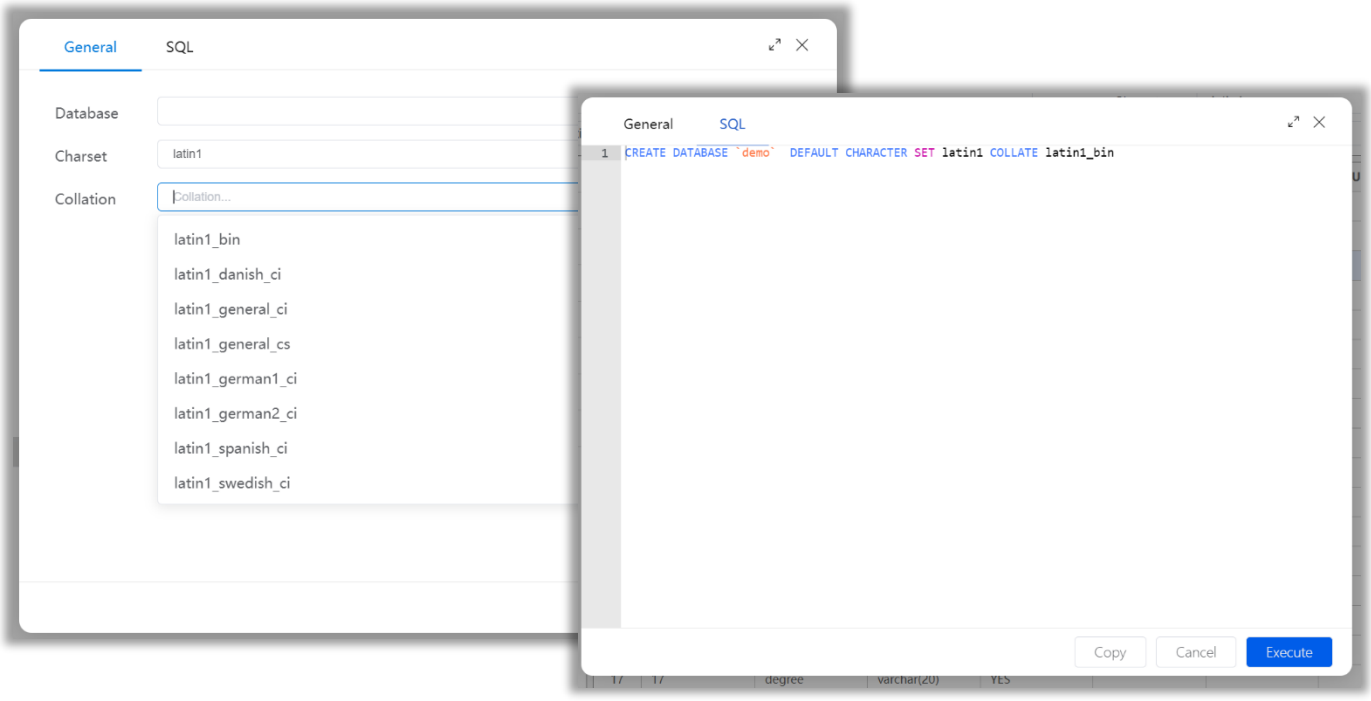


#	Function	Description
1	New Database	Create a new database, with options to set the database name, character set, and collation.
2	View Datasource	View the configuration information of the currently selected data source
3	Filter	Filter the databases displayed in the current navigation pane
4	Delete Datasource	Delete the currently selected data source ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
5	Add Folder	Create a new folder
6	Refresh	Refresh

Add Database:

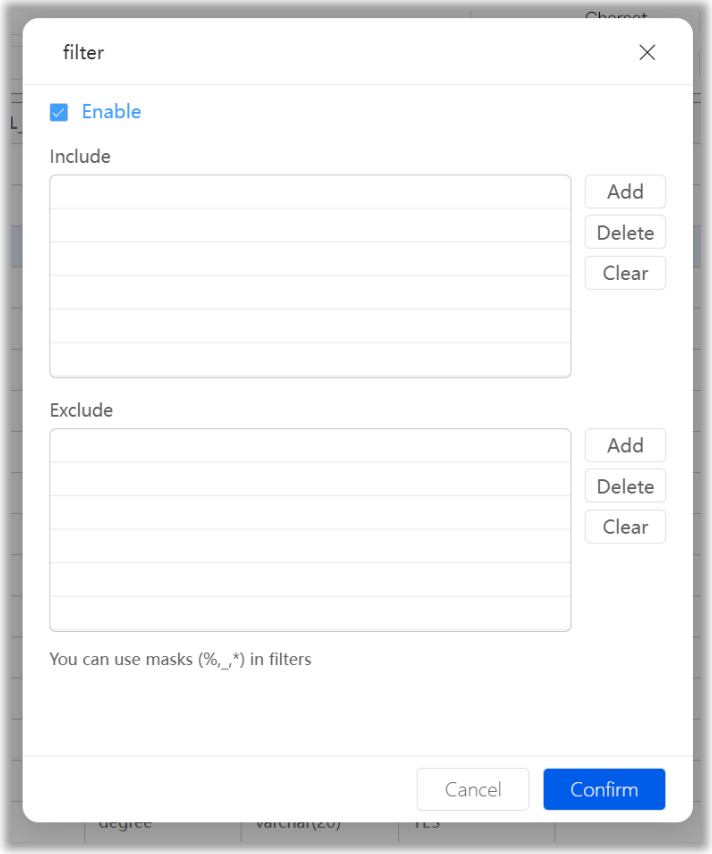
Create a new database and execute the operation after filling out the Database name, character set, and collation rules as required.

The SQL editor on the right will simultaneously display the corresponding SQL statements for reference.



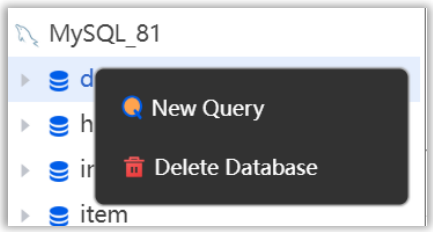
Filter：

You can set filter conditions based on your needs, to include or exclude certain keywords. When performing a fuzzy search, you need to add wildcards.



4.2.1.2 New Query

Expand the data source, right-click on the database name, and the following menu appears.

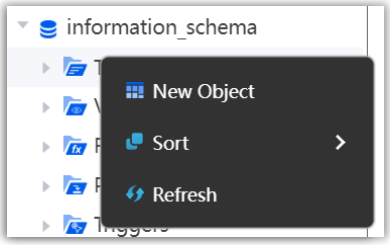


#	Function	Description
1	New Query	The main window switches to the SQL editor, with the default path being the path of the currently selected database.
2	Delete Database	Delete the currently selected database ***The deletion is irreversible once confirmed, please proceed with caution after verification.**

4.2.1.3 New Object

a. New Table

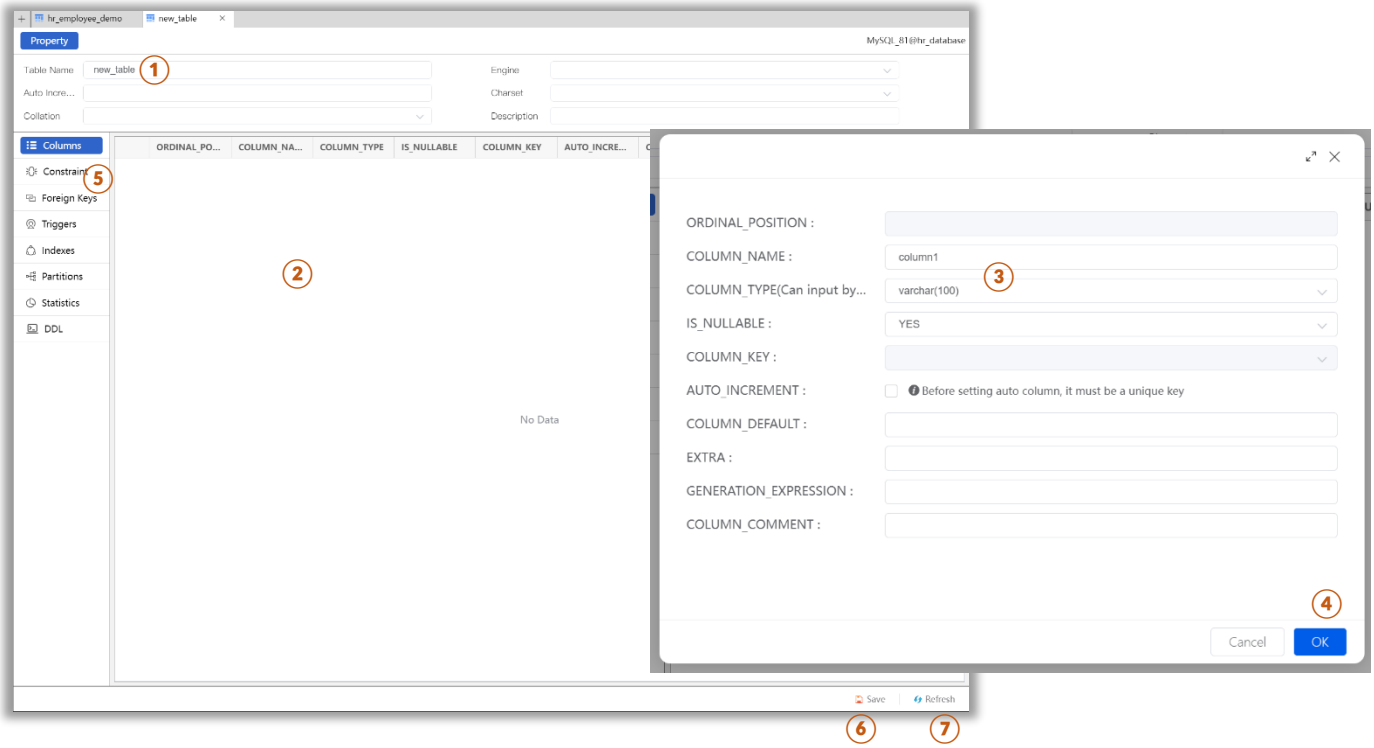
1. Expand the database, right-click on the " Tables " icon, and the following menu appears.



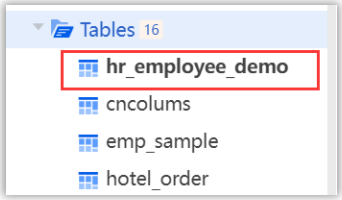
#	Function	Description
1	New Object	The main window becomes the object detail pane. where a new table is created. You can modify the table's properties on this page and execute these changes.
2	Sort	Sort all tables in the current database: By Intelligent Sorting*, By Weight, By Count, By Time, By First Letter.
3	Refresh	Refresh

2. Create a New Table

- Click on "**New Object**".
- Set the basic properties of the table in the object detail pane: such as Table Name, Character Set, Collation, and Description.
- Under the “Columns” tab, right-click on the blank area of the data detail box to bring up the context menu, and click “Add”.
- In the popup window, configure the column information to be added and click OK; repeat the third step until you have added all the required columns.
- Under the "Constraints" tab, right-click to bring up the context menu and click “Add” to set a primary key for the table, then confirm.
- Click save at the bottom right corner, which opens a popup showing the preview of the SQL statement for creating the table. You can directly click “Execute” to create the table or click “Copy” to save the current statement for further editing in the SQL editor.
- After execution, refresh the database to view the tables or refer to section 4.2.2.1 for steps on adding data post table creation.

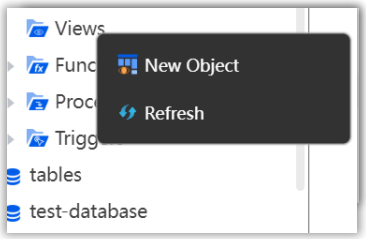


3. * Intelligent Sorting：By default, the system employs intelligent sorting to automatically prioritize and bold the tables that the user frequently operates, facilitating quick and easy access.



b. New View

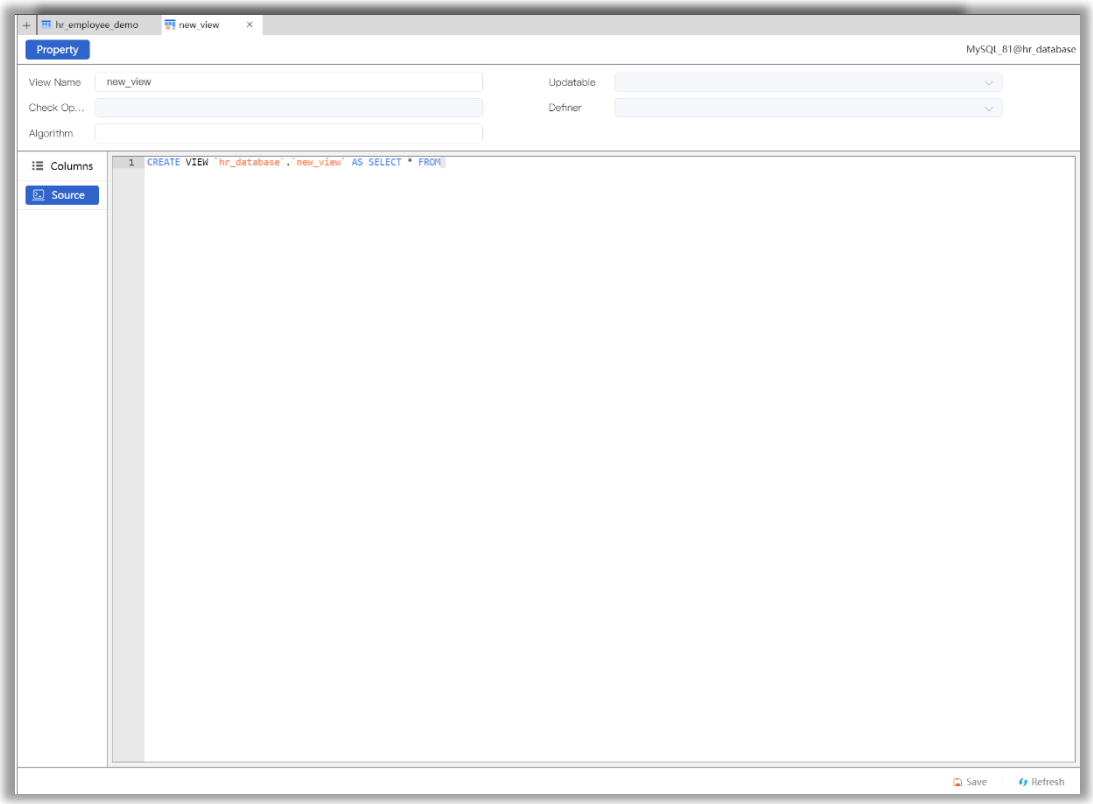
1. Expand the database, right-click on the " Views " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new view.
2	Refresh	Refresh

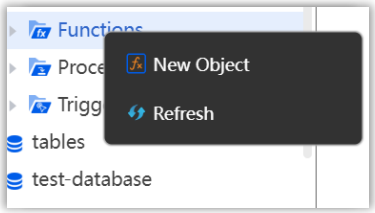
2. Create New View

- Click on "**Create Object**"
- Set the basic properties of the view in the object detail pane: View Name, Algorithm, etc.
- Write the SQL statement under the "Source" tab to create it, then click save and refresh.



c. New Function

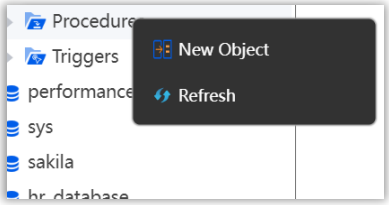
1. Expand the database, right-click on the " Functions " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new function.
2	Refresh	Refresh

d. New Procedure

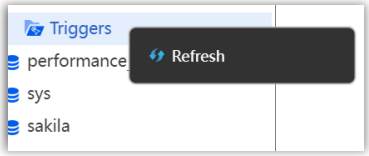
1. Expand the database, right-click on the " Procedures " icon, and the following menu appears.



#	Function	Description
1	New Object	The main window becomes the object detail pane. And you can create a new procedure.
2	Refresh	Refresh

e. Triggers

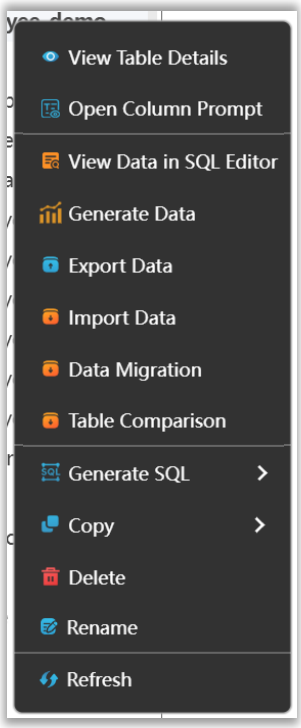
1. Expand the database, right-click on the " Triggers " icon, and the following menu appears.



#	Function	Description
1	Refresh	Refresh

4.2.1.4 Object Operations

a. Table

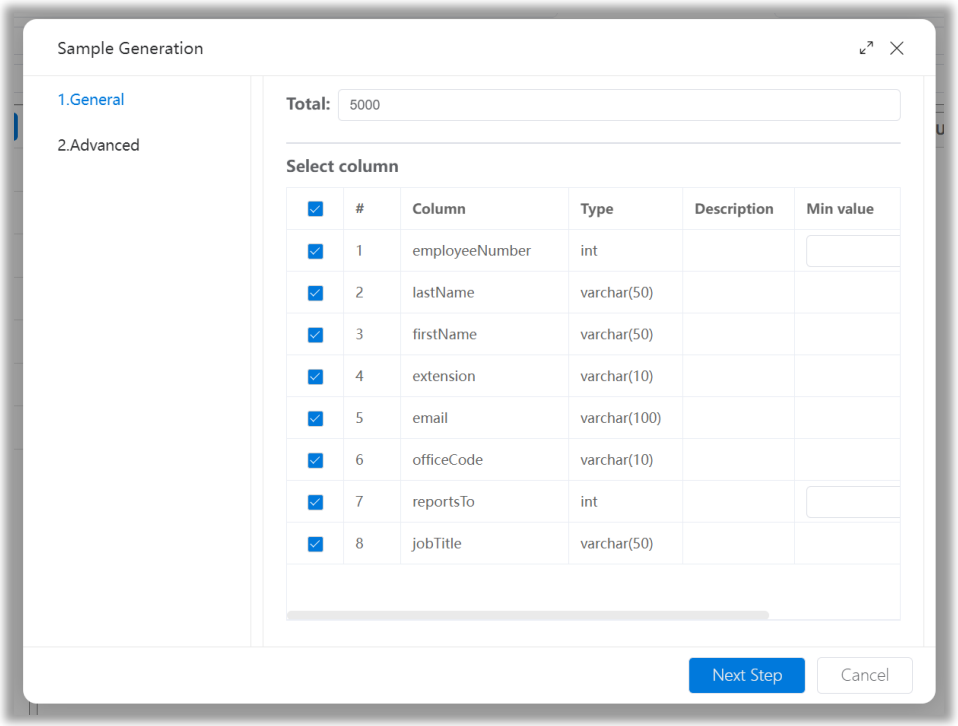


#	Function	Description
1	View Table Details	View the details of the currently selected table: the main window displays an object detail pane where you can view table properties and table data (for details, refer to section 4.2.2.1 Object Detail Pane).
2	Open Column Prompt	When open the query window, click on the menu function or double-click the table name to display prompts on the right screen (for details, refer to section 4.2.2.2 Prompt Pane).
3	View Data in SQL Editor	Automatically generate the statement "SELECT * FROM current table" and execute the query with the SQL editor (for SQL editor, refer to section 4.2.3 Data Operations - SQL Editor).
4	Generate Test Data	Generate test data with the options to replace or append.
5	Export Data	Export data to local storage, with options for CSV, Excel, or SQL file formats.
6	Import Data	Import CSV or Excel files from your local machine into the selected table.
7	Data Migration	Migrate data from the selected table to another table.
8	Table Comparison	Compare the structural differences of tables from two identical-type databases.
9	Generate SQL	Automatically generate SQL statements such as select, insert, update, delete, or DDL.
10	Copy	Within the same database, create a duplicate of

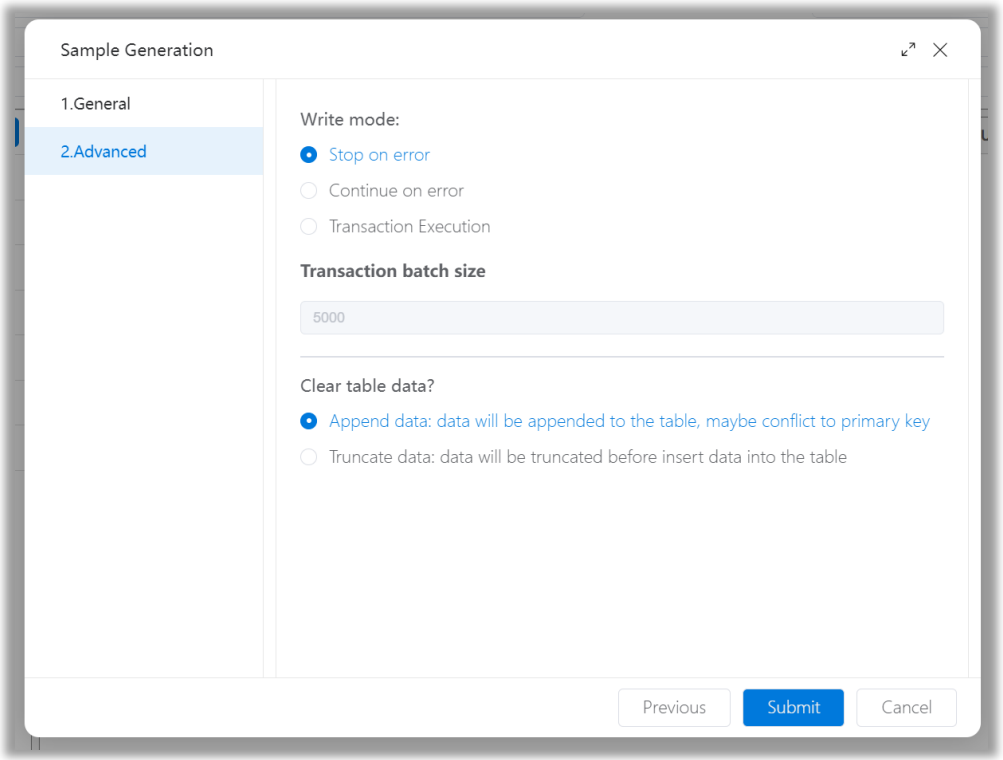
		the currently selected table, copying either "structure and data" or "structure only".
11	Delete	Delete the currently selected table. ***The deletion is irreversible once confirmed, please proceed with caution after verification.**
12	Rename	Rename the currently selected table.
13	Refresh	Refresh

1. Generate Data

Test data can be generated based on table structure. The data generation process operates in the background, and the final results can be viewed in the Task Center under "Generate Data".



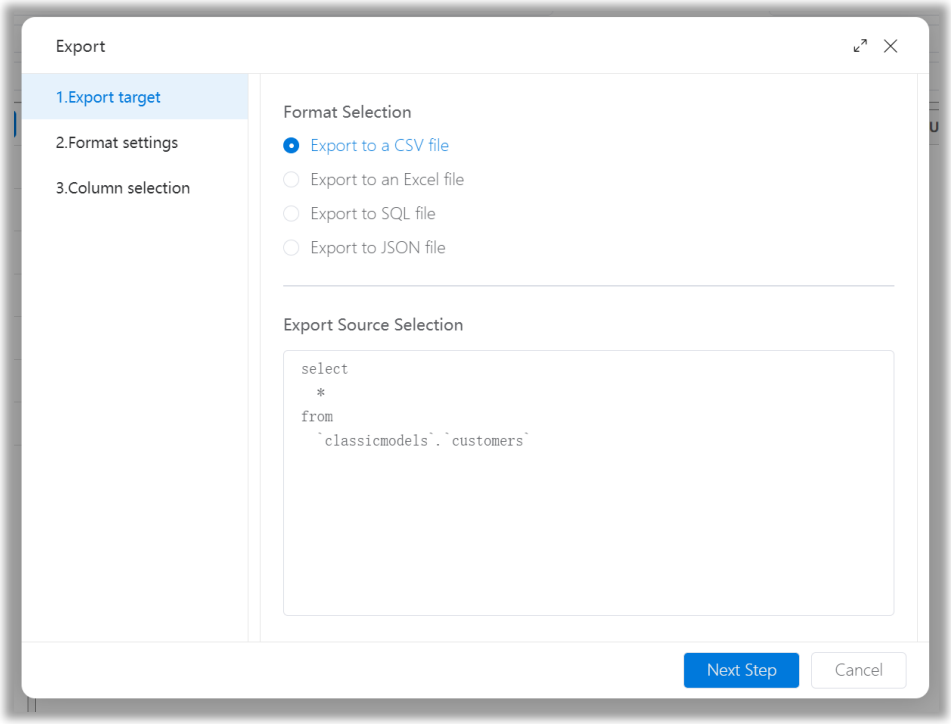
The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.



2. Export Data

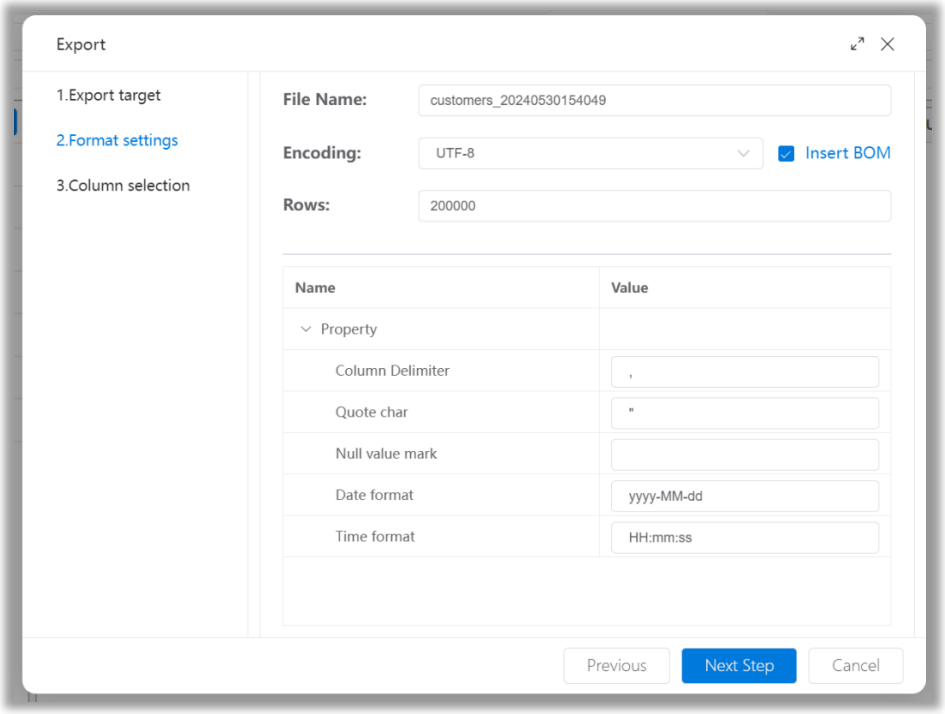
Export the data of the currently selected table to the local system, available in CSV, EXCEL, SQL, and JSON file.

Users can configure the columns of the exported data (all/part), the number of rows, characters, and header format of the export data as needed.



Users can modify the filename, encoding, and number of rows of the exported file as needed.

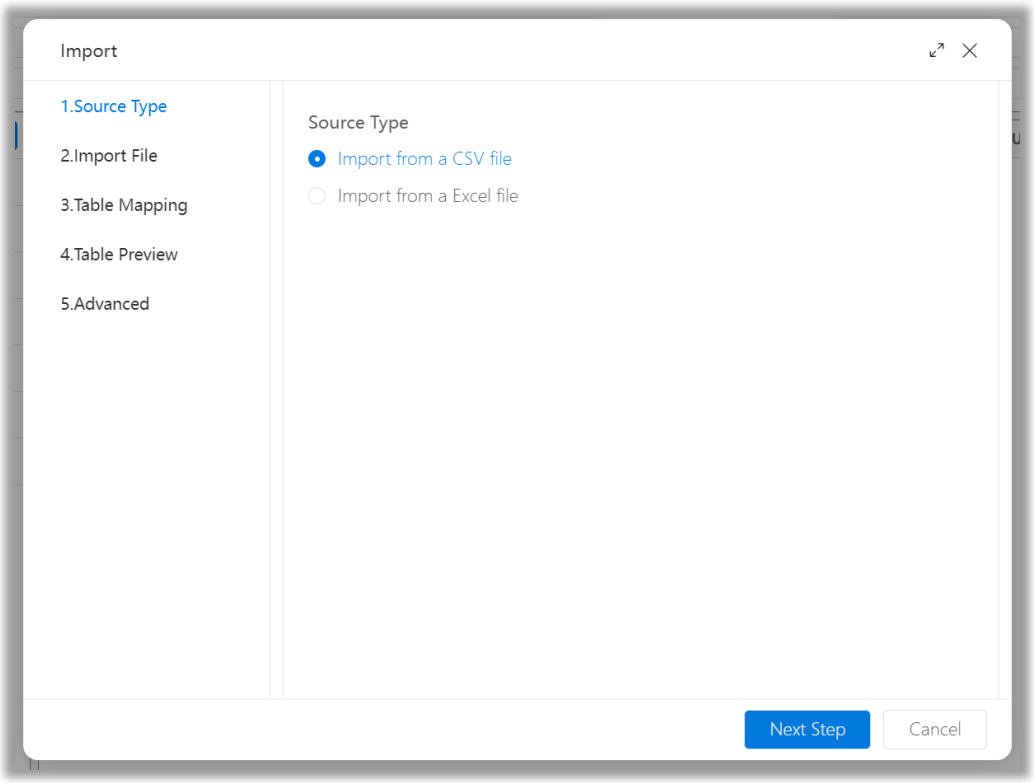
*When the exported file is in CSV format and needs to be opened in Excel, it is recommended to check the "Insert BOM" option for stronger format compatibility.

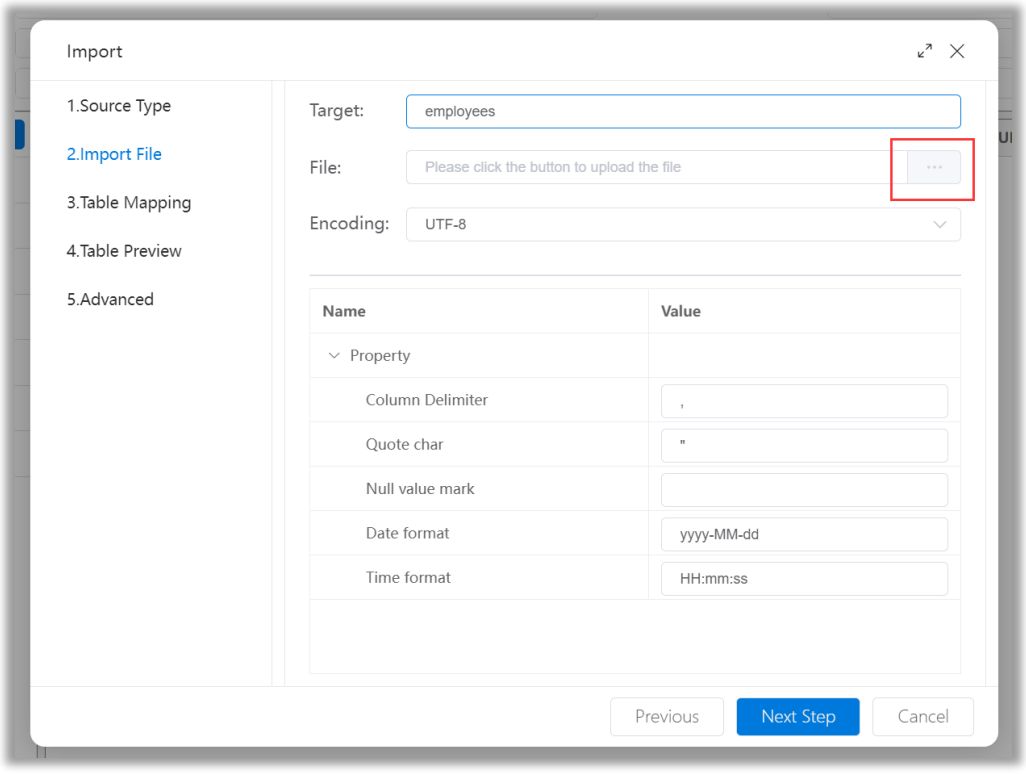


3. Import Data

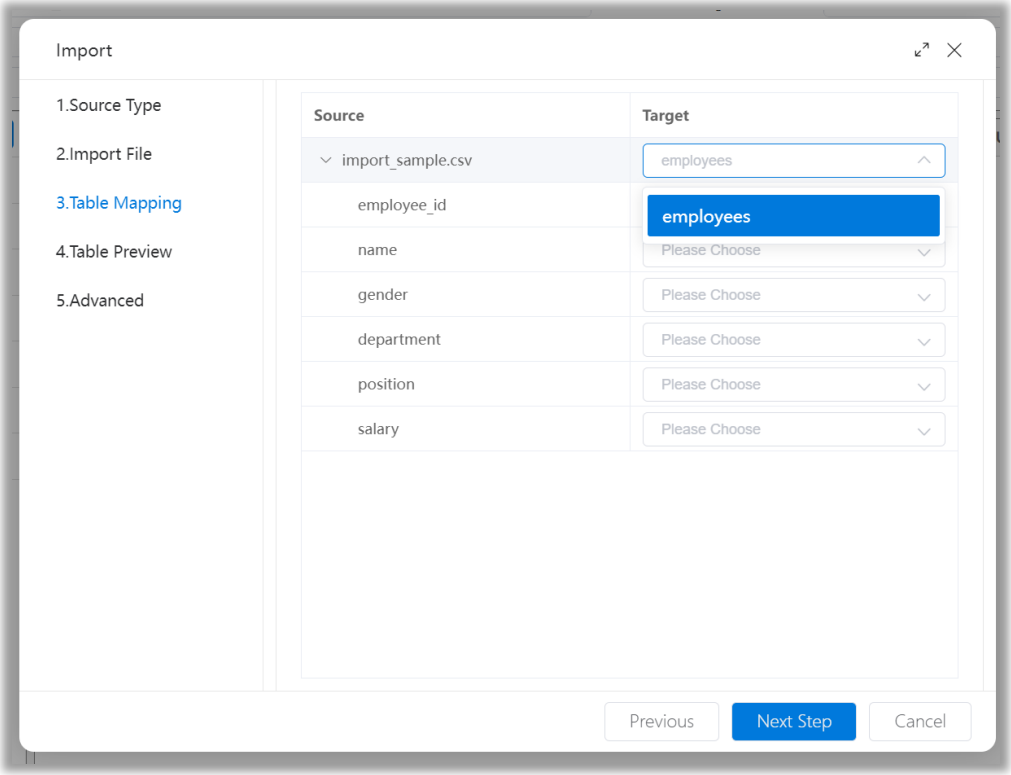
Import a local CSV or Excel file into the currently selected table. (*Importing an SQL file is performed through the context menu in the SQL editor.)

Choose a local CSV or Excel file.

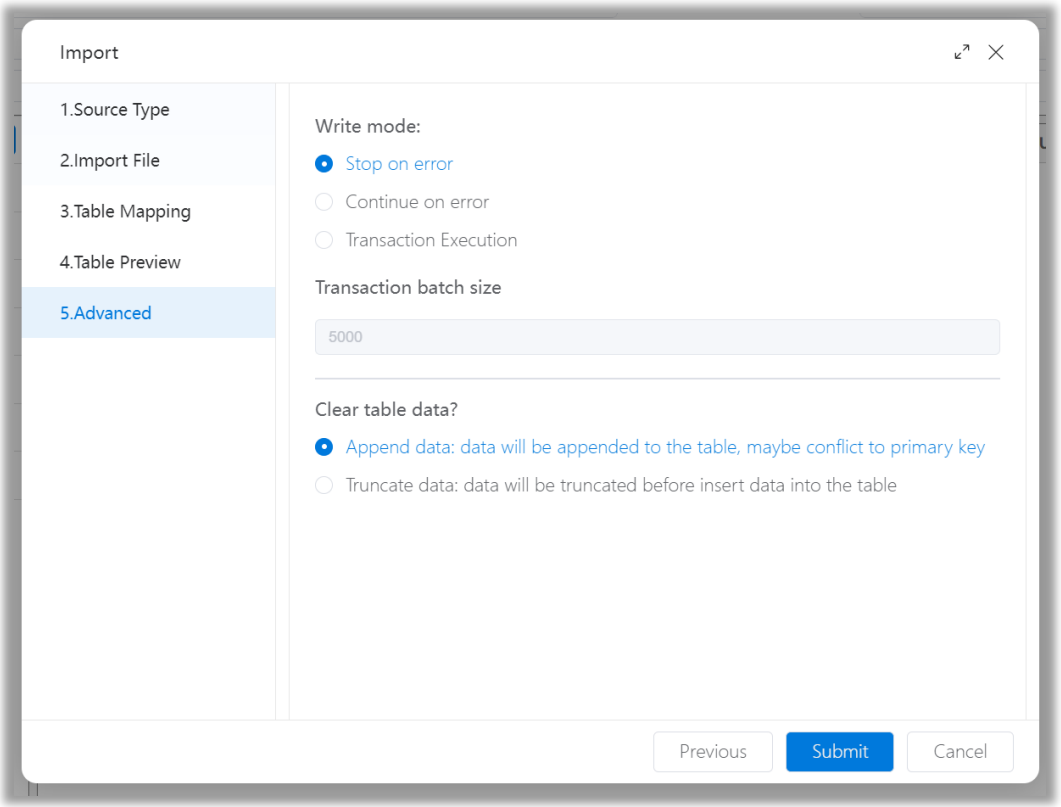




In the "Table Mapping" section, confirm the correspondence between columns.

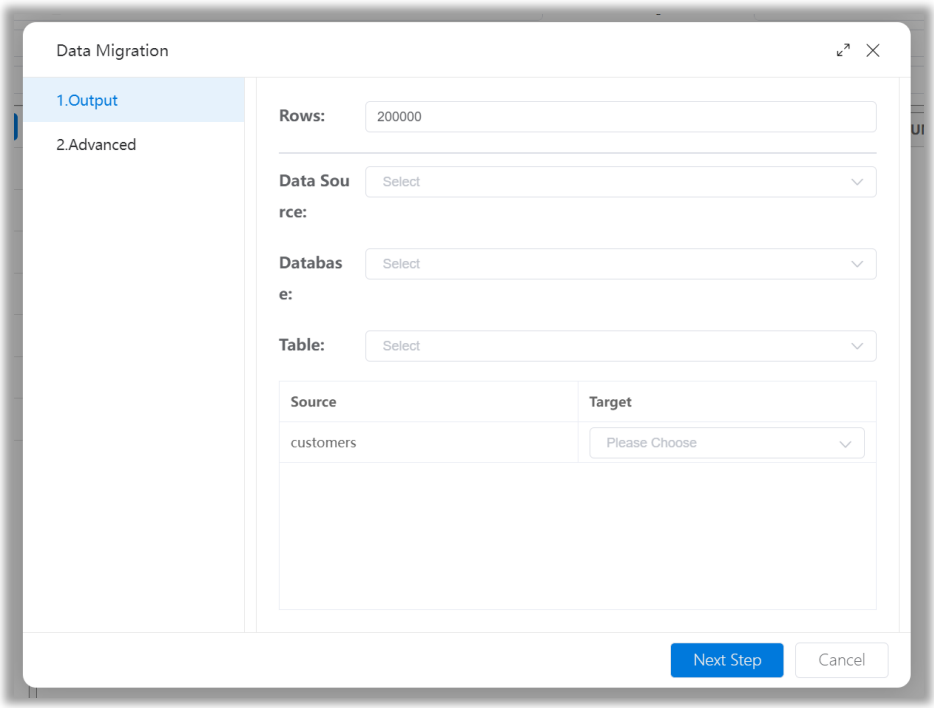


The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

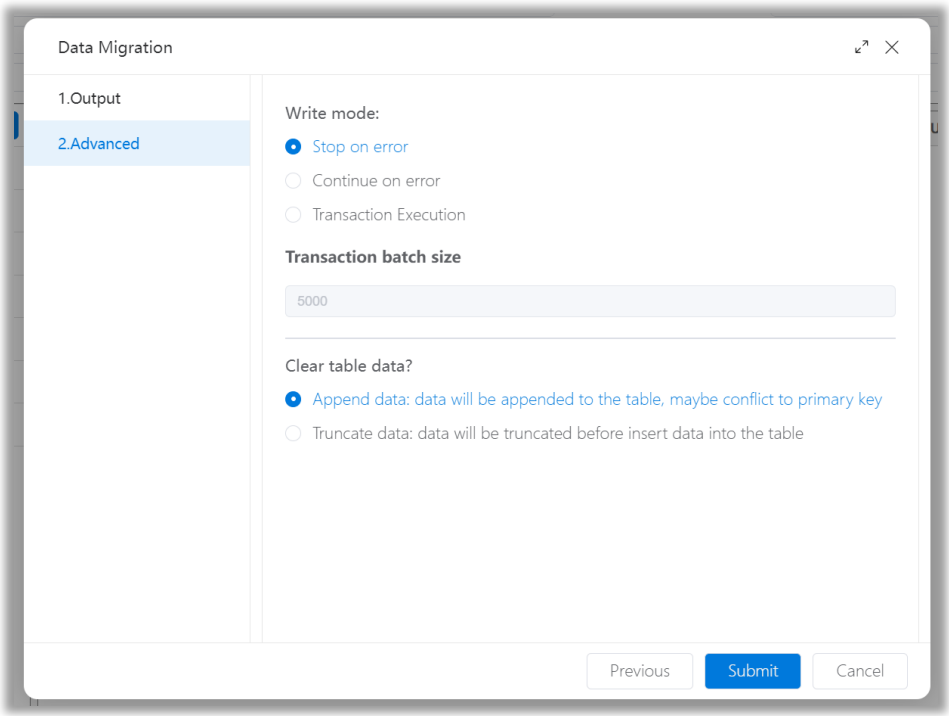


4. Data Migration

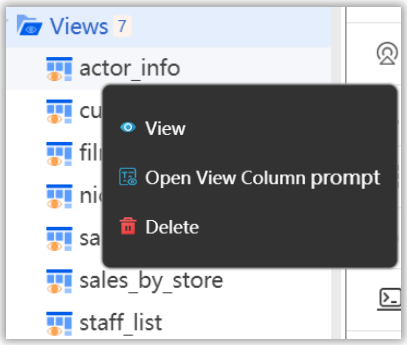
Migrate the data from the currently selected table to another table, with support for transaction execution.



The write mode supports stopping on error, continuing on error, or transaction execution. By selecting the transaction execution mode, you can set the transaction batch size according to user needs. Moreover, users can choose to append data based on the existing data in the target table or truncate data within the table, depending on their business requirements.

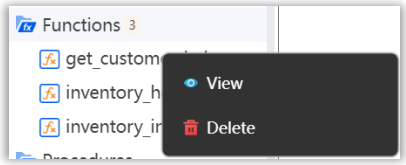


b. View



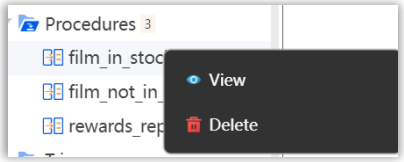
#	Function	Description
1	View	View the details of the currently selected view. The main window will display the object details pane, where you can view the properties and data of the view.
2	Open view column prompt	When open the query window, clicking on the menu function or double-clicking on the current view name will display prompt pane on the right screen.
3	Delete	Delete the currently selected view.

c. Function



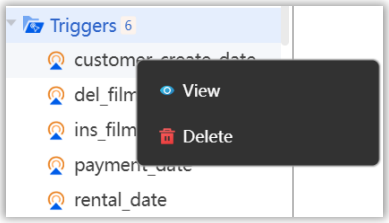
#	Function	Description
1	View	View the details of the currently selected function. The main window will display the object details pane, where you can view the properties of the function.
2	Delete	Delete the currently selected function.

d. Procedure



#	Function	Description
1	View	View the details of the currently selected procedure. The main window will display the object details pane, where you can view the properties of the procedure.
2	Delete	Delete the currently selected procedure.

e. Trigger

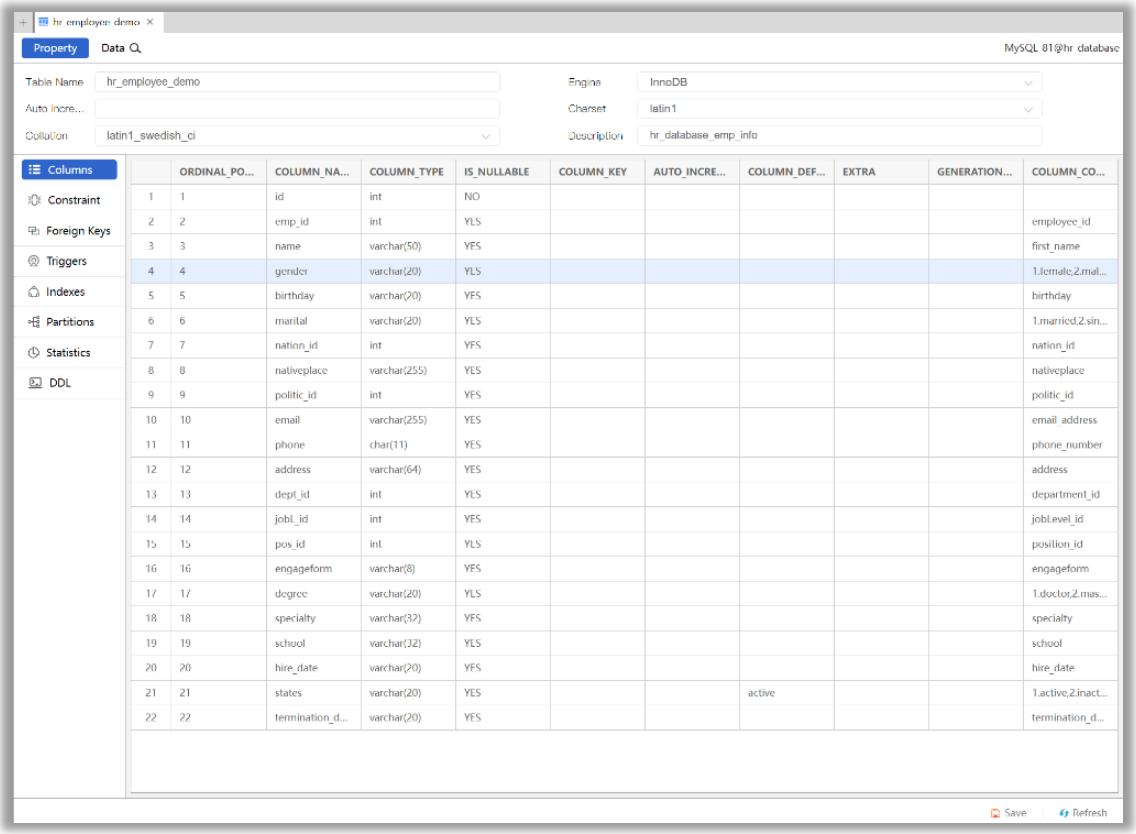


#	Function	Description
1	View	View the details of the currently selected trigger. The main window will display the object details pane, where you can view the properties of the trigger.
2	Delete	Delete the currently selected trigger.

4.2.2 Information Pane

4.2.2.1 Object Details Pane

Located in the middle of the main window, this is where detailed information about objects can be displayed. The object details pane is usually hidden by default, and clicking on any object to select the view function will make it visible.



a. Property

Display detailed properties, settings, and parameters of objects such as tables, views, functions, procedures, triggers, etc.

#	Property	Description	Context Menu	Function
1	Columns	Displays the columns and data structure of the current object.	View	View detailed information of the currently selected column.
			Edit	Modify information of the currently selected column.
			Add	Add a new column.
			Delete	Delete the currently selected column.
			Refresh	Refresh
2	Constraint	Displays primary key information of the current table.	Add	Add a new primary key.
			Refresh	Refresh
3	Foreign Keys	Displays foreign key information of the current table.	N/A	N/A
4	Triggers	Displays trigger information of the current table.	N/A	N/A
5	Indexes	Displays index information of the current table.	Add	Add a new index.
			Refresh	Refresh
6	Partitions	Displays partition information of the current table	N/A	N/A
7	Statistics	Displays statistics information of the current table.	N/A	N/A
8	DDL	Displays DDL information of the current table.	Users can copy the DDL statement and paste it into the SQL editor for use.	

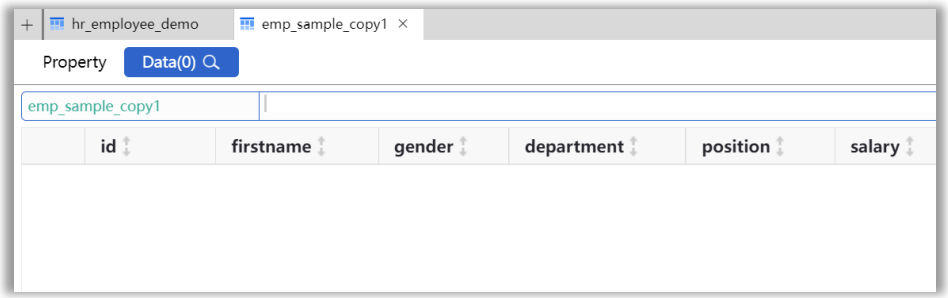
b. Data

Display detailed data for the above objects.

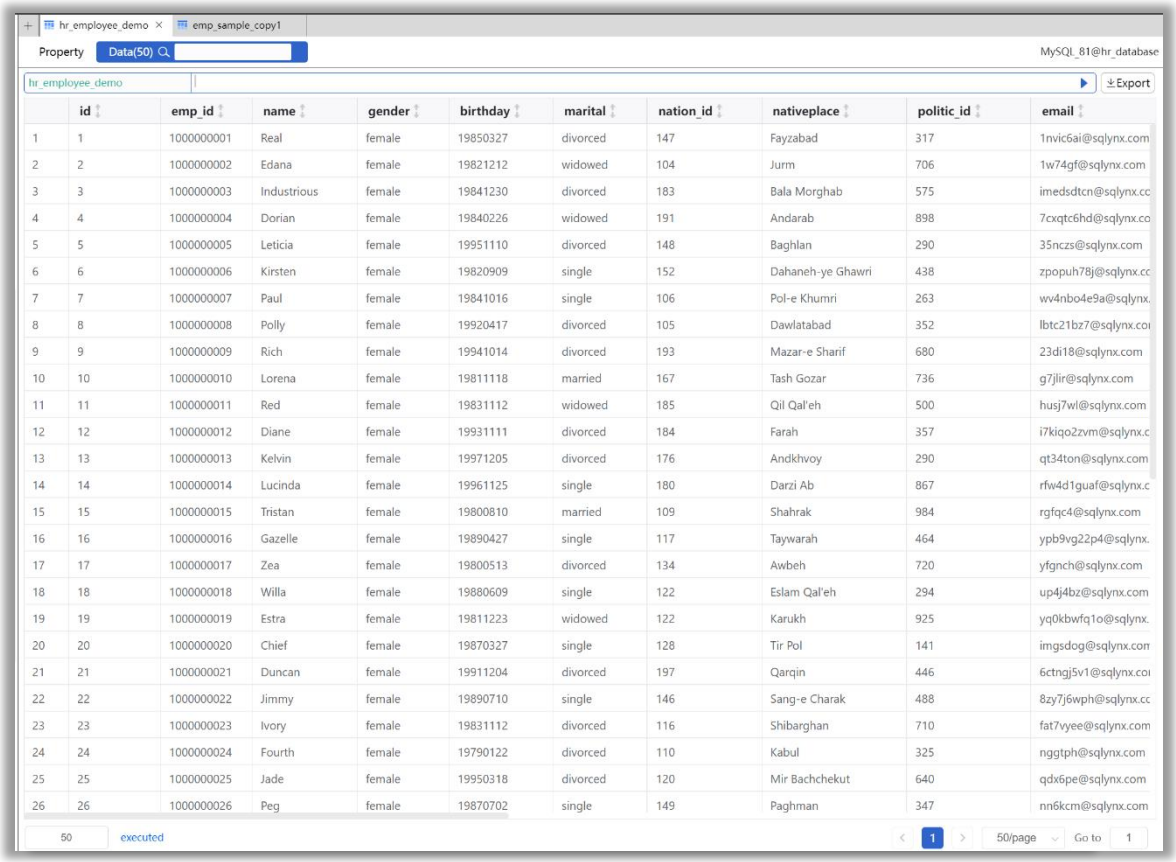
1. No data in the table.

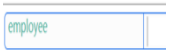
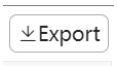
You can right-click in the blank space, select 'Add',

In the popup window, input data according to the configured columns, and execute.



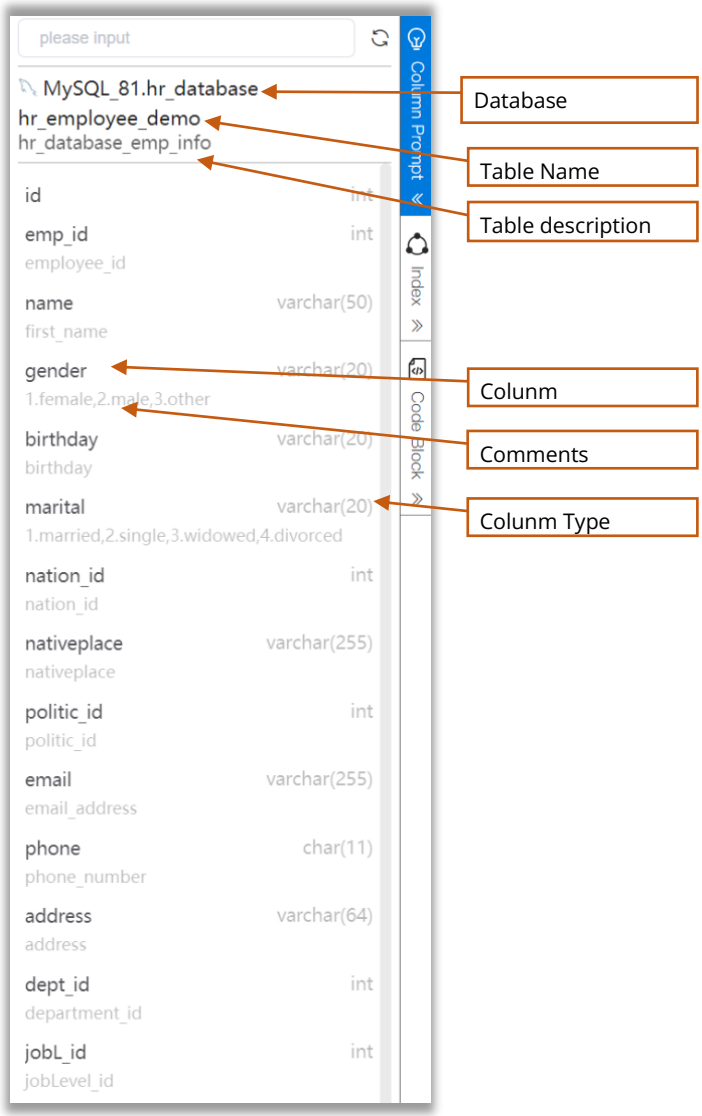
2. Data exists in the table



#	Location	Function	Description
1		Full-text Search	Click the magnifying glass icon on the right side of the "Data" tab to perform a full-text search on the current sample data.
2		Data Filter	Allows filtering of current sample data. Enter statement conditions in the blank box on the right side and click the execute button on the far right, such as: gender='F'. After execution, all data with the value 'F' will be displayed.
3		Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.
4		Export	Export the data of the current table to the local device. Refer to section 4.2.1.4 "Object Operations - Table - Context menu - Export Data".
5		Rows of sample data	Located at the bottom left corner of the data viewer, the default number of rows displayed is 50. Users can manually input any number as needed. After modification, click on the "Execute" button on the right side.

4.2.2.2 Prompt Pane

Located on the right side of the main window, this area displays detailed column information for tables, including colunm names, comments, and colunm types. The table column prompt pane is usually hidden. When open the query window, double-clicking on any table name or right-clicking and selecting "Open Column Prompt" will display it.

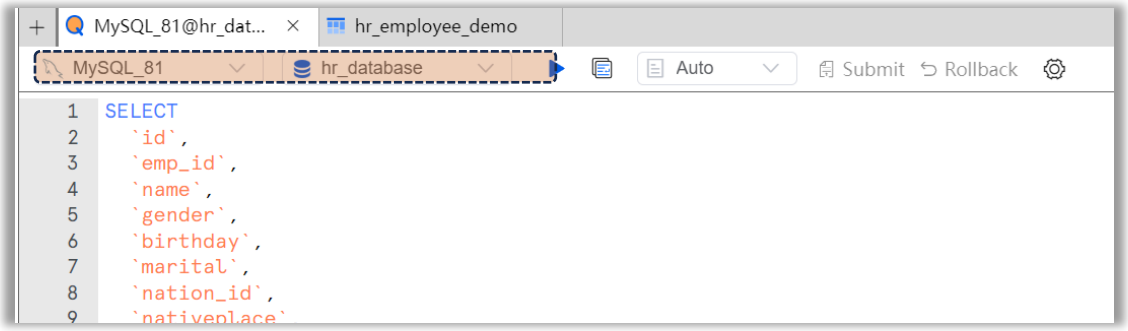


4.2.3 SQL Editor

Located in the middle of the main window, it is usually hidden but will be displayed after creating a new query, revealing the SQL editor page.

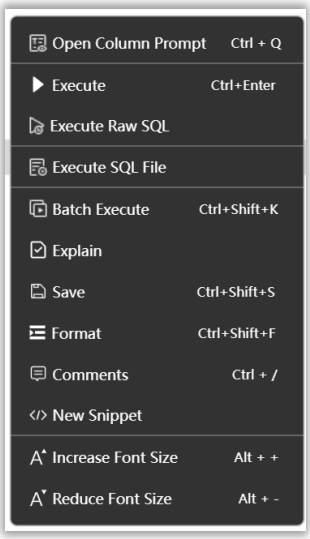
1. Top shortcuts of the SQL editor

Two dropdown boxes below the tabs indicate the current database path information of the SQL editor.



#	Shortcut	**Description**
1	Execute	Quick execution defaults to returning 1000 query results. ***The row count can be modified in the "default row count limit" settings.**
2	Format	One-click formatting of SQL statements for easy readability and inspection.
3	Auto Transaction	SQL transaction functionality allows toggling between automatic and transaction commit.
4	Settings	These settings are only effective for the current query and can be adjusted for “Default Row Count Limit” and “Max Row Count Limit”. Users can choose to keep connection to the current database.

2. Context Menu

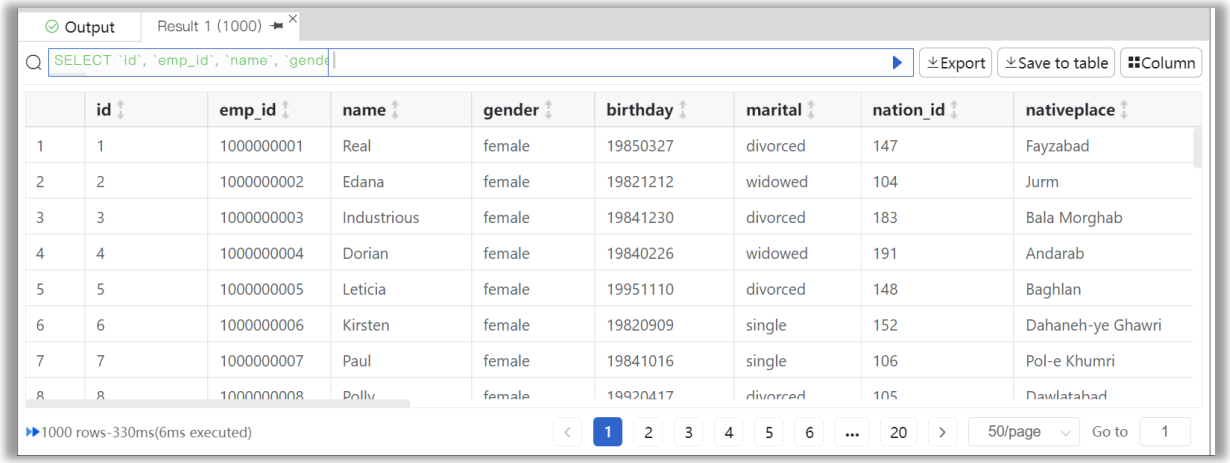


#	Function	Description
1	Open Column Prompt	Selecting the table name text, and clicking opens column prompt, which brings up the corresponding table's column prompt page on the right screen.
2	Execute	Quick execution defaults to returning 1000 query results. (Parameter modifications refer to Section 4.6.5.1 Data Settings)
3	Execute Raw SQL	Execution of Original SQL Statements in the Editing Box. By default, the max row count is set to 10000. (Parameter modifications refer to Section 4.6.5.1 Data Settings)
4	Execute SQL File	Select and Execute Local SQL Files.
5	Batch Execute	Execute SQL statements in batches.
6	Explain	Perform performance analysis on current SQL statements for optimization.
7	Save	Save frequently used SQL statements, with options to copy, modify, or delete.
8	Format	One-click formatting of SQL statements for readability and inspection.
9	Comments	Add comments.
10	New Snippet	Create habitual code blocks, with options to set indexes. Index names can be intelligently prompted in editor status. (All created code blocks can be queried in the personal center.)
11	Increase/Reduce Font Size	Customize the font size of the SQL editor, which is only valid for the current query window created.

4.2.4 Data Viewer

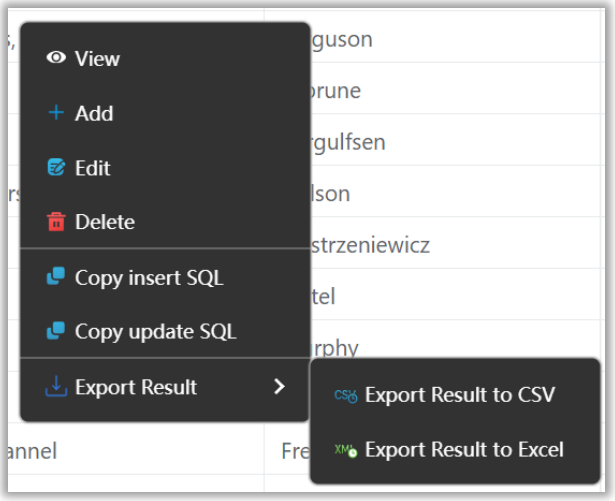
4.2.4.1 Query Result

1. The Data Viewer is located at the bottom center of the main window and displays query results. Double-clicking on the tab name supports full-screen display.



#	Location	Function	Description
1	Output	Output Log	Viewing the output log of query result.
2		Full-text Search	Click on the magnifying glass icon, in the search box, you can perform full-text search on the current query result .
3	select * from `hr_database`.`hr_emplo	Data Filter	You can filter the current query result by entering statement conditions in the blank box on the right side, and then click on the execute button on the far right, for example: gender='F'. After execution, all data values for 'F' will be displayed.
4	Export	Export	Export all data under the current query statement to the local computer. CSV and Excel formats are supported.
5	Save to table	Save to Table	Save the data of the current query result to another table. The operation is the same as "Data Migration."
5	id	Sort	Clicking on the gray arrow located to the right of the column name allows you to sort the current sample data in ascending or descending order.

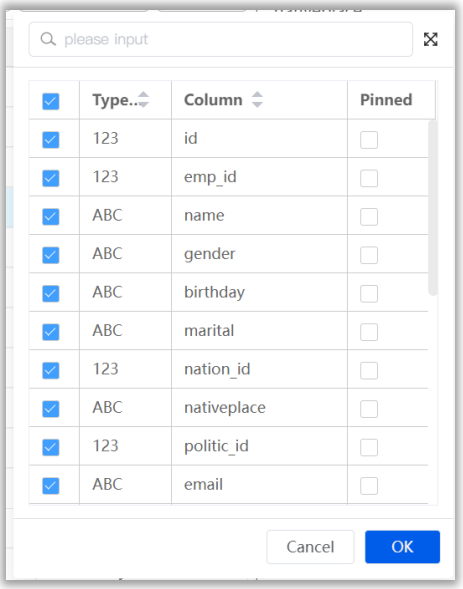
2. Context Menu



#	Function	Description
1	View	Viewing the currently selected single row data, but it cannot be modified in view mode.
2	Add	Inserting single row data into the current table.
3	Edit	Modifying the currently selected single row data, only applicable for single table queries.
4	Delete	Deleting the currently selected single row data.
5	Copy insert SQL	Automatically generating INSERT SQL statements, where the inserted values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
6	Copy Update SQL	Automatically generating UPDATE SQL statements, where the updated values default to the current selected single row data values. You can copy this SQL statement and paste it directly into the SQL editor for editing and use.
7	Export Result	Exporting the query result set returned by the current web page to the local computer. CSV and Excel formats are supported.

3. Column Operations

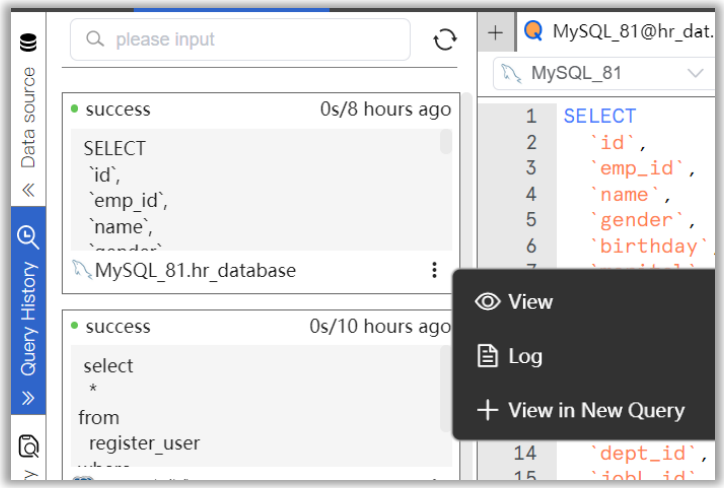
Located at the top right corner of the data viewer, it allows operations such as searching, filtering, sorting, and pinning all columns of the current query result.



#	Location	Description
1	please input	Search for colunms within the current table
2	Type..	Sort in ascending or descending order
3		Toggle the checkbox to show/hide the columns you want to view
4	Pinned	Checked colunms can be pinned to the leftmost position.

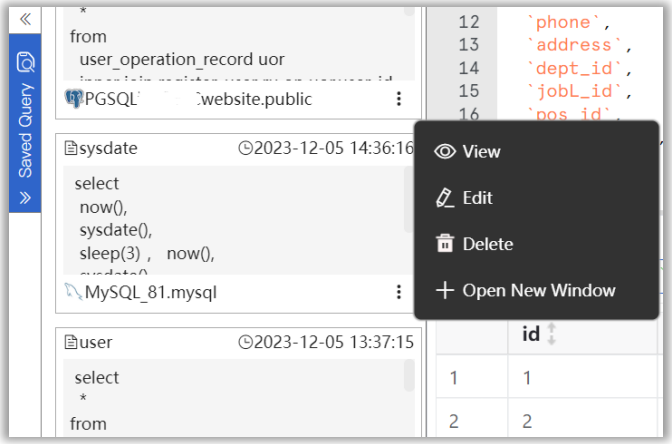
4.2.4.2 Query History

Display the query history executed by the current user. Users can retrieve historical query statements, view the statements, view the logs, or open them in a new window.



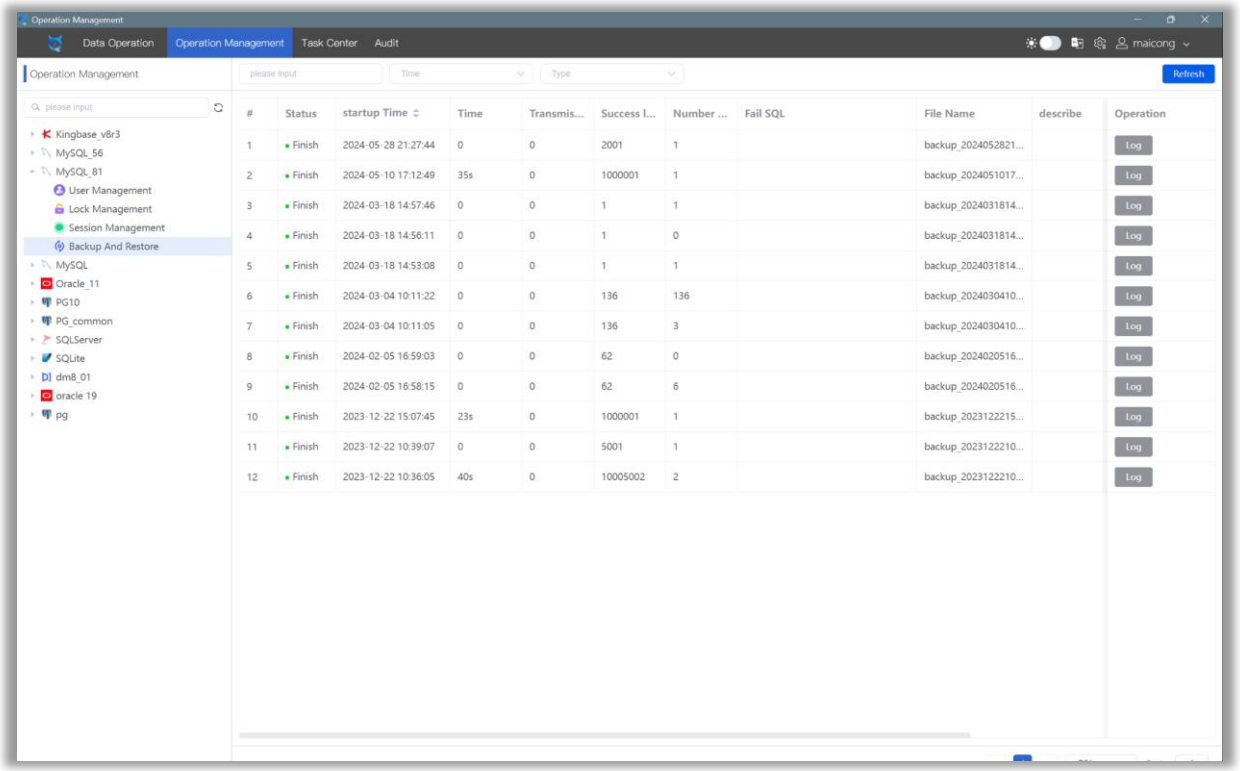
4.2.4.3 Saved Query

Display the commonly used query statements saved by the current user. Users can retrieve saved statements, view, edit, delete, or open them in a new window.

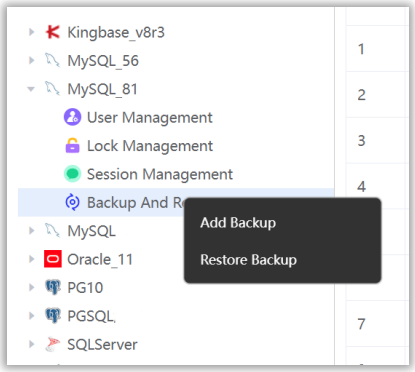


4.3 Operation Management

View user management, lock management, and session management information for the configured data sources. Perform database backup and restoration.



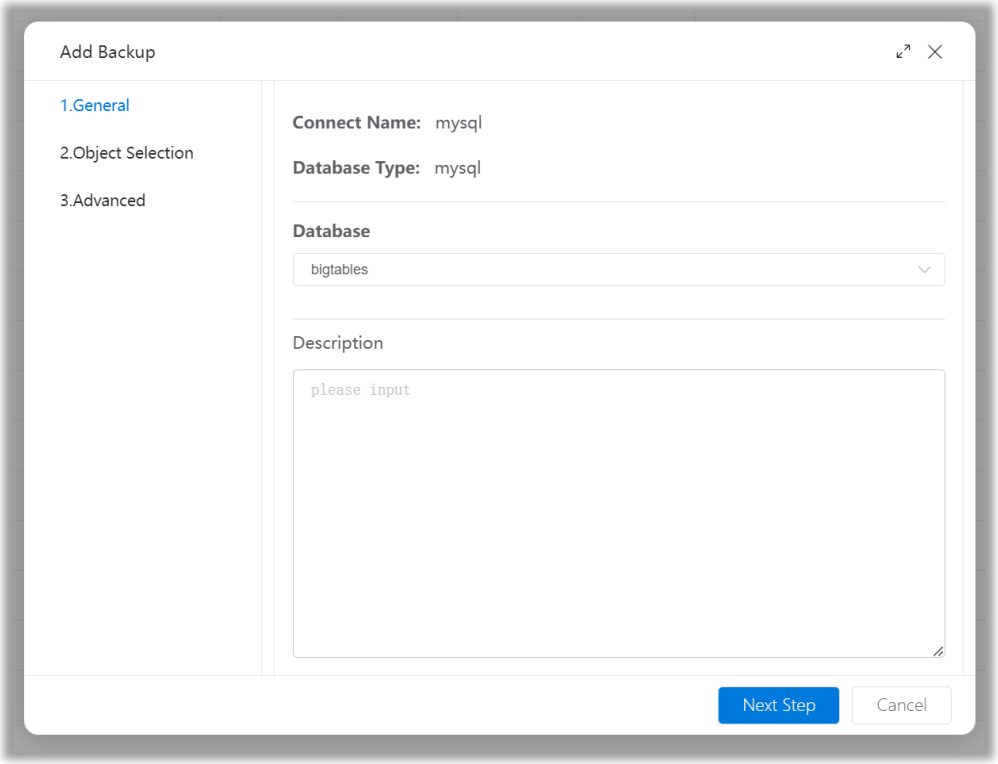
4.3.1 Backup and Restore



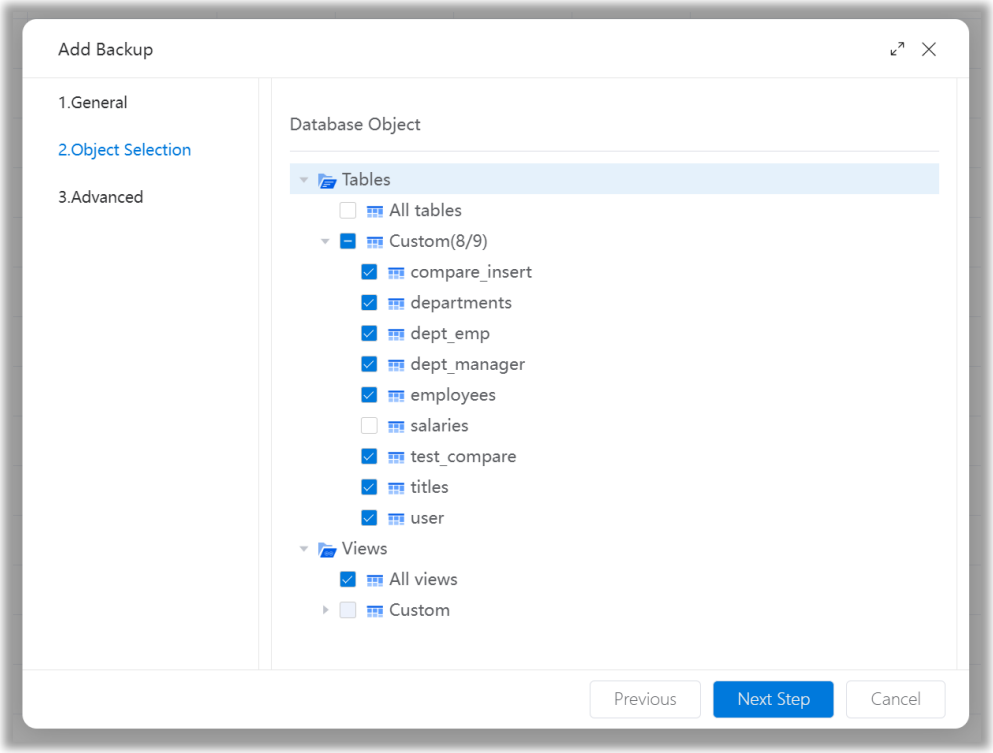
#	Function	Description
1	Add Backup	Backup the data from the currently selected database to a local SQL file.
2	Restore Backup	Restore the data from the backup SQL file to the selected database.

4.3.1.1 Add Backup

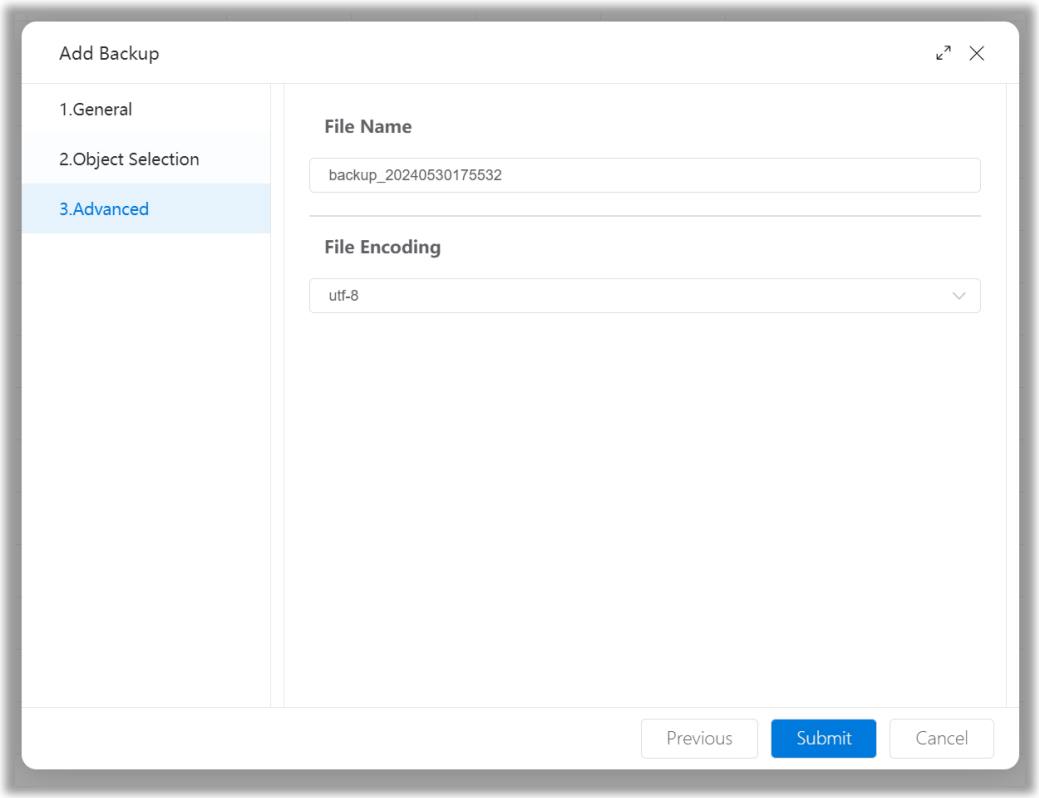
Right-click on the menu and select the "Add Backup" function, then choose the database you want to backup.



You can either select all tables in the database or choose specific tables to backup by customizing your selection.

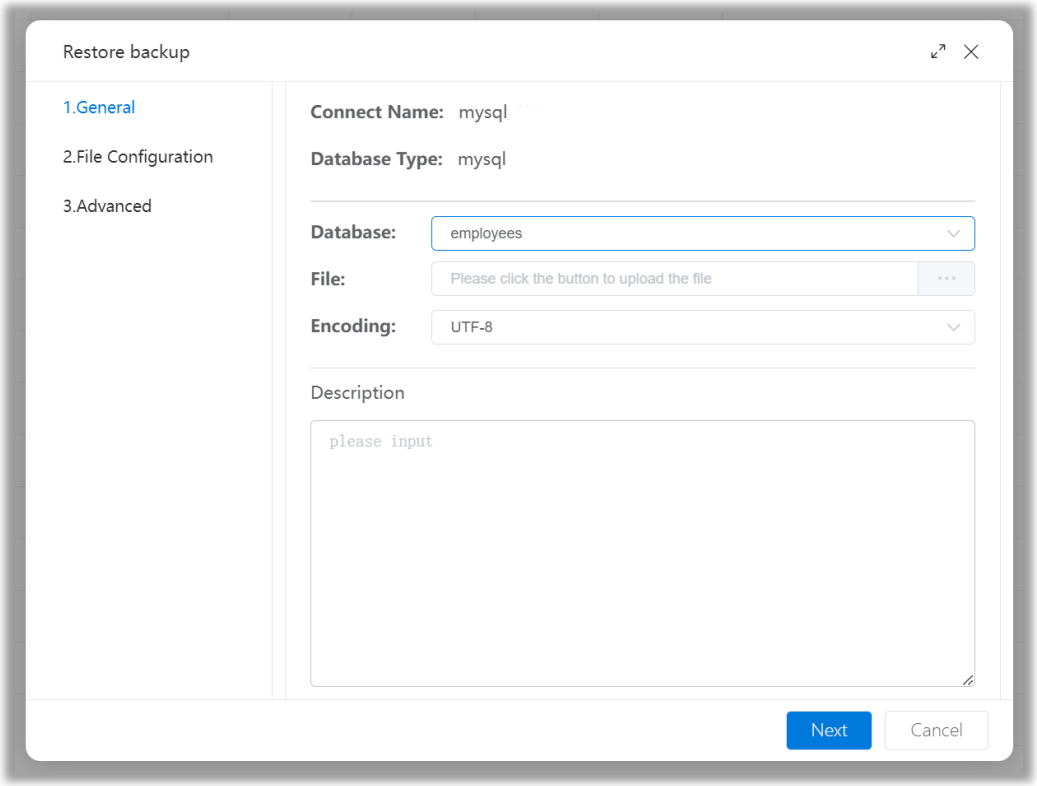


Set the filename and encoding for the backup SQL file, then click "Submit".

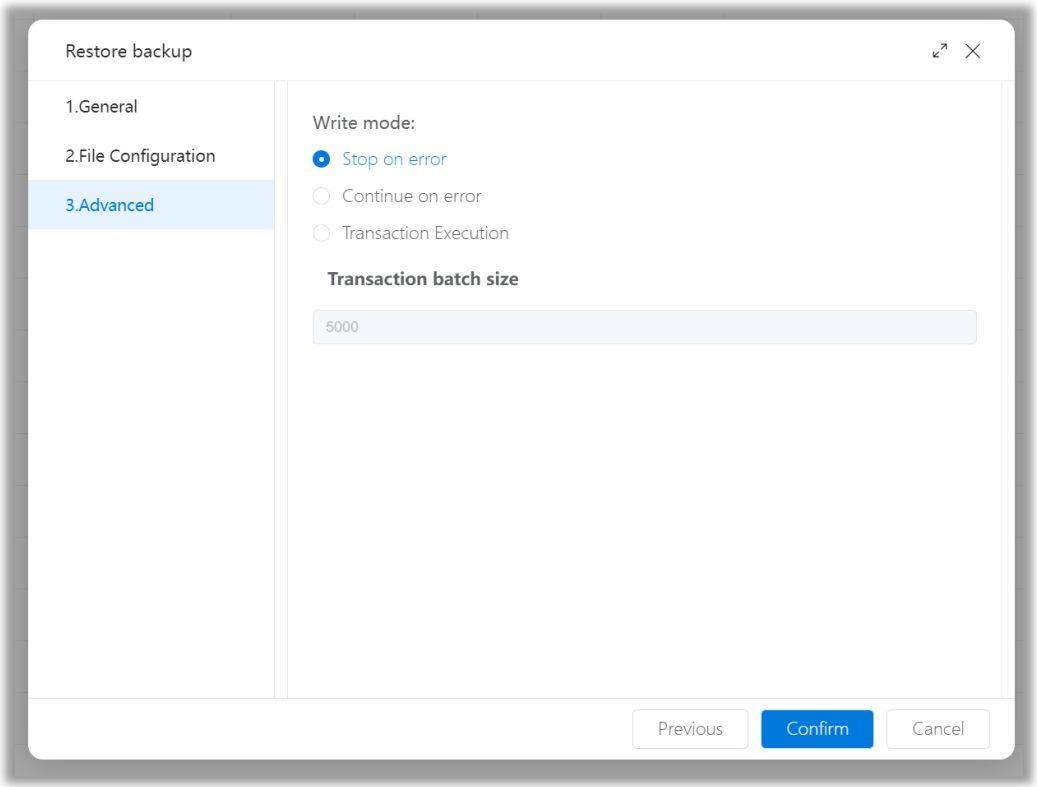


4.3.1.2 Restore Backup

Right-click on the menu and select the restore backup function, then choose the local backup SQL file.



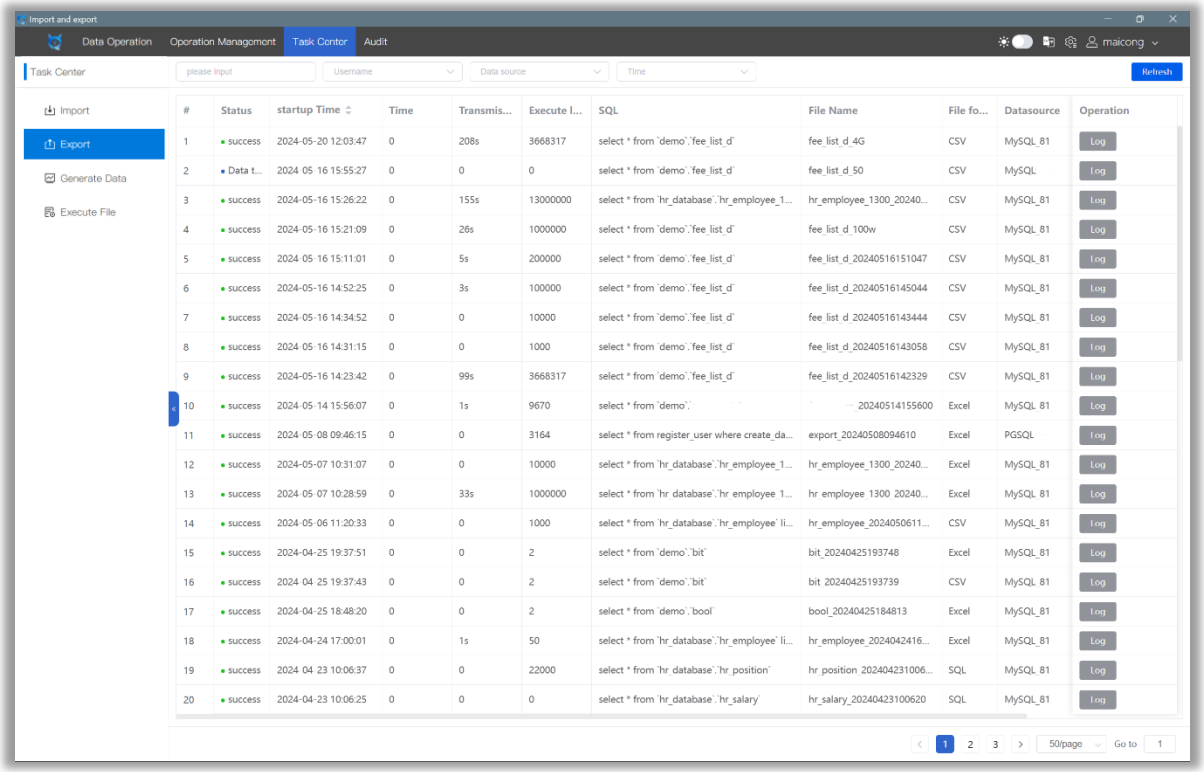
Select whether the restore operation requires transaction execution, and then click "Confirm".



4.4 Task Center

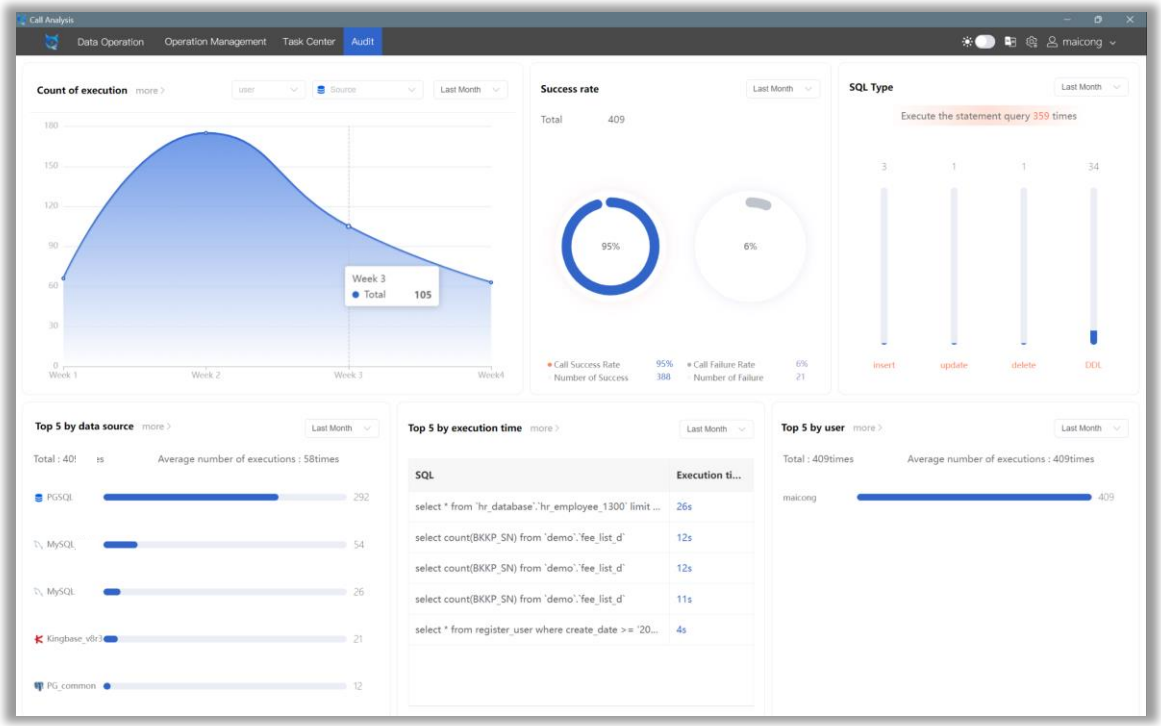
The "Task Center" in the top main menu records user behavior logs related to data import, data export, and generation test data.

If the data generation process takes too long due to a large amount of data being generated, or if there is a need to terminate the data generation operation, you can click on the "Terminate" option in the rightmost action column of the corresponding record in the Task Center to stop the SQL execution operation.

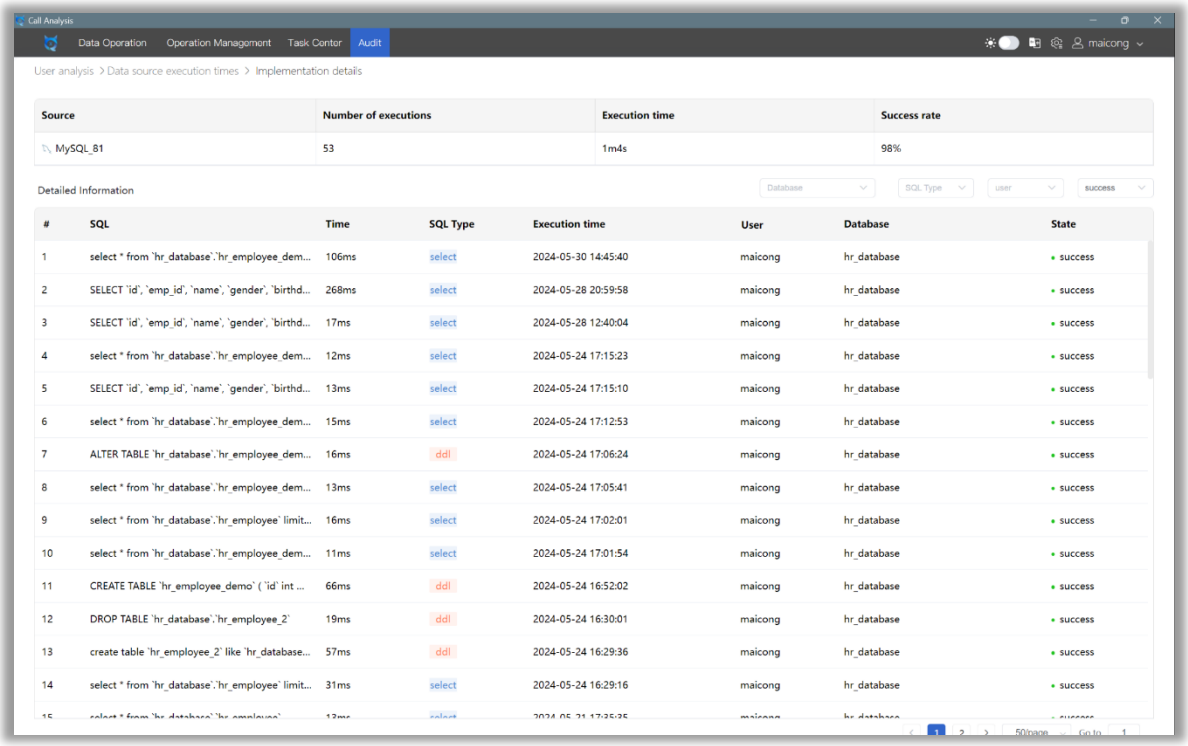


4.5 Audit

Based on operation logs, user behavior records can be automatically analyzed to generate corresponding data visualization charts based on dimensions such as execution frequency, success rate, SQL type, classification by data source, classification by execution time, and classification by operating user.

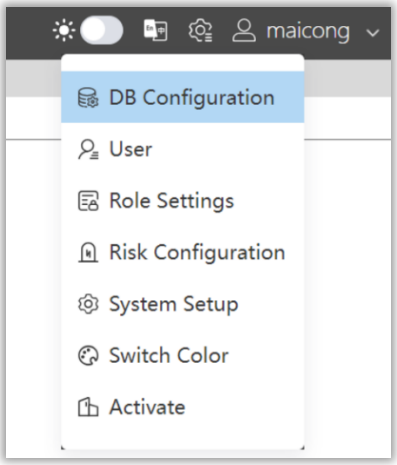


Clicking on "More" allows you to view detailed operation data and filter for export.



4.6 System Setup

Located on the top-right corner of the main menu, here you can operate the system settings for SQLynx.

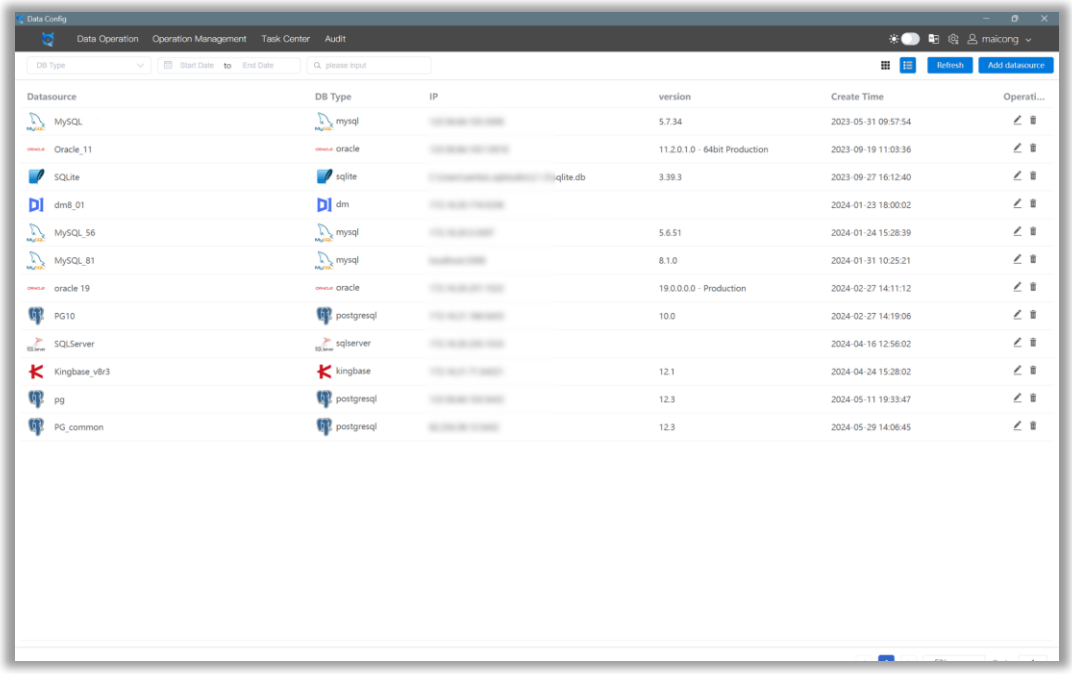


#	Location	Description
1		Switch system mode between light/dark mode
2		Switch between displaying system menus in English or Chinese
3	DB Configuration	Configuration operations for data sources
4	User	Managing user information such as creation, configuration, or deletion
5	Role Settings	Managing group information such as creation, configuration, or deletion
6	Risk Configuration	Users can customize and configure risk rules
7	System Setup	System displays data, font size, and other global parameter settings
8	Switch Color	Switch theme color
9	Activate	Upload the license file to activate the product

4.6.1 Data Configuration

You can view, add, modify, and delete data sources in SQLynx.

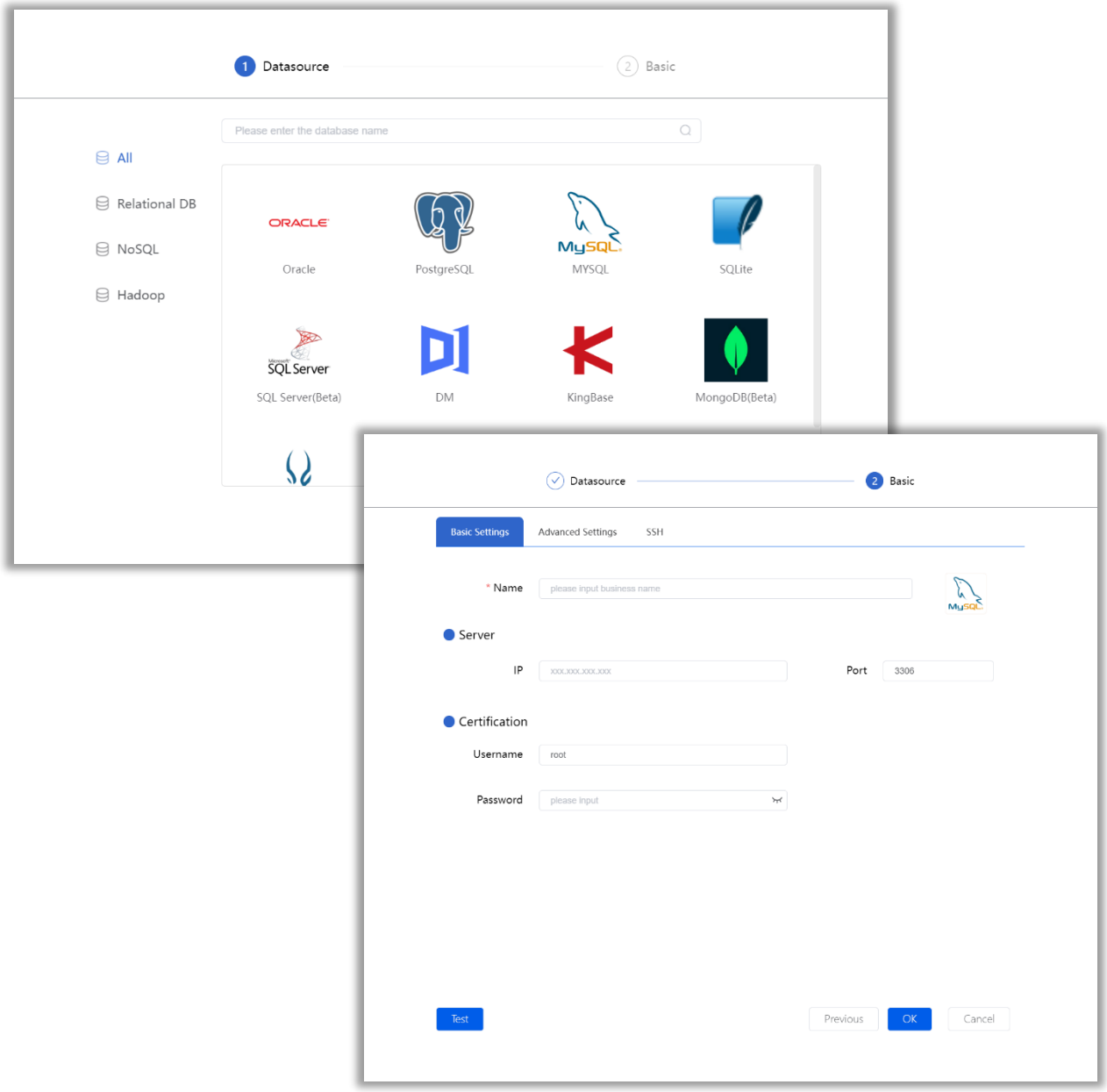
***Note:** In the SQLynx Premium, only the [Administrator] account has the permission to configure data source operations.



1. Add Data source：

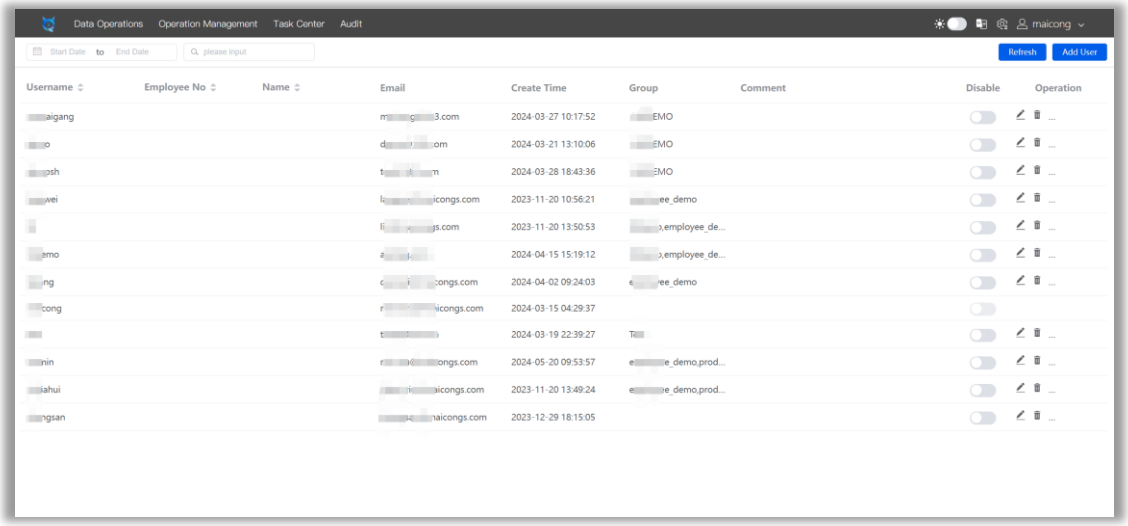
- Click on "Add Data Source.
- In the guided popup window, select the appropriate database and click "Next."
- Enter the basic settings of the data source, such as the business system name, data source address, port number, username, and password.
- If more configuration is needed, click on "Advanced Settings" to replace the database driver version, character set, add connection properties, driver properties, etc.
- Click on "Test" button. If the test is successful, it means the data source can be added. If the test fails, please check if the data source and network connection are correct.

***Note:** For connection properties, driver properties, and other parameters, please refer to the JDBC documentation released by the added data source's official.



4.6.2 User Management

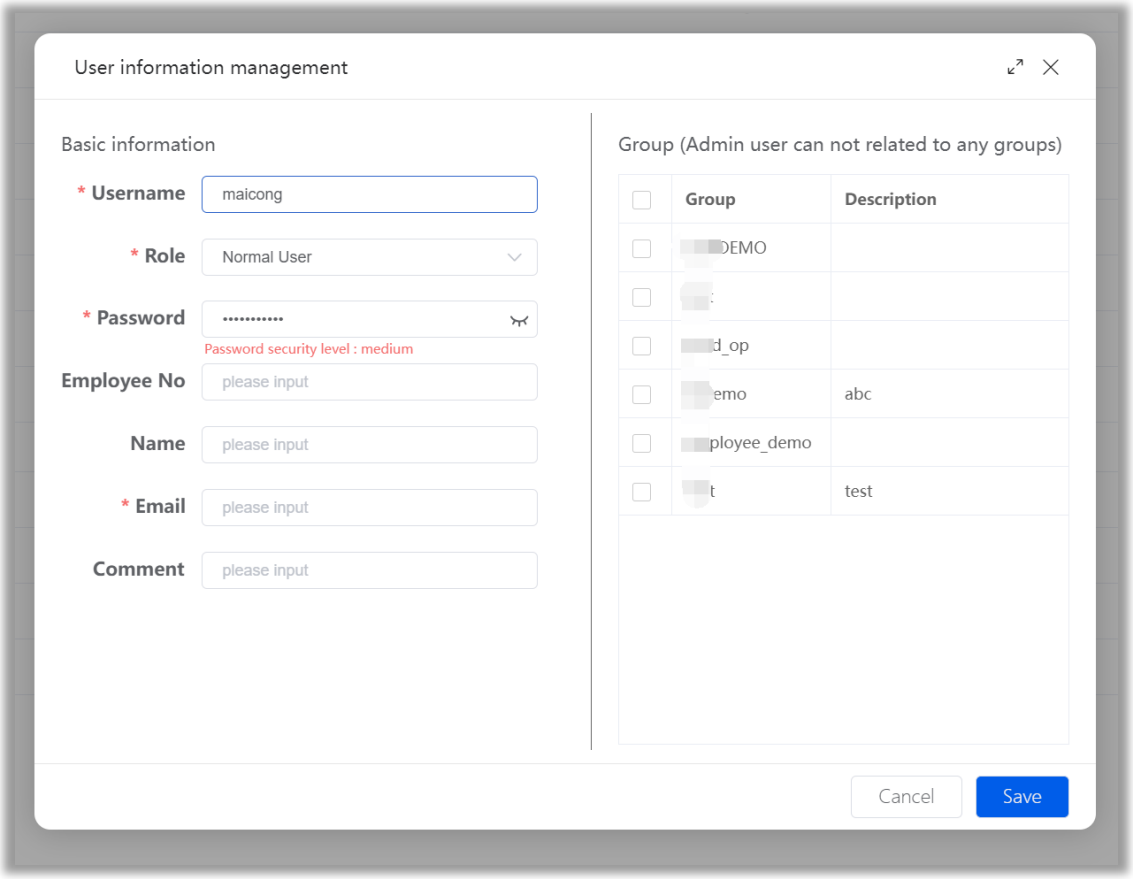
The default login user "maicong" has administrative rights, allowing for the management of all team data sources and member permissions.



#	Location	Function	Description
1	Search box	Search user information	Search for user information under the current admin permissions
2	Refresh	Refresh	Refresh the current page
3	Add User	Add User	Enter information to create a new user
4	Disable	Disable	Disable/Enable login permissions for users under current admin rights
5		Edit	Edit user information under current admin rights
6		Delete	Delete user accounts under current admin rights

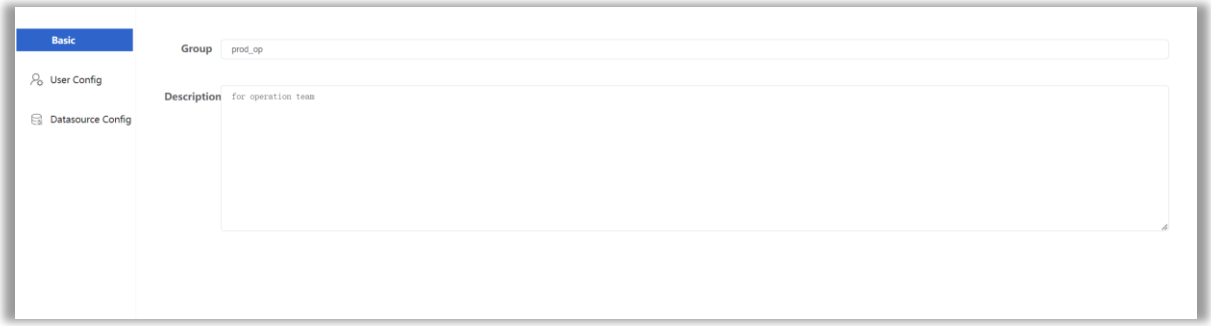
To add a new user: Enter the username, password, and email in sequence, then save.

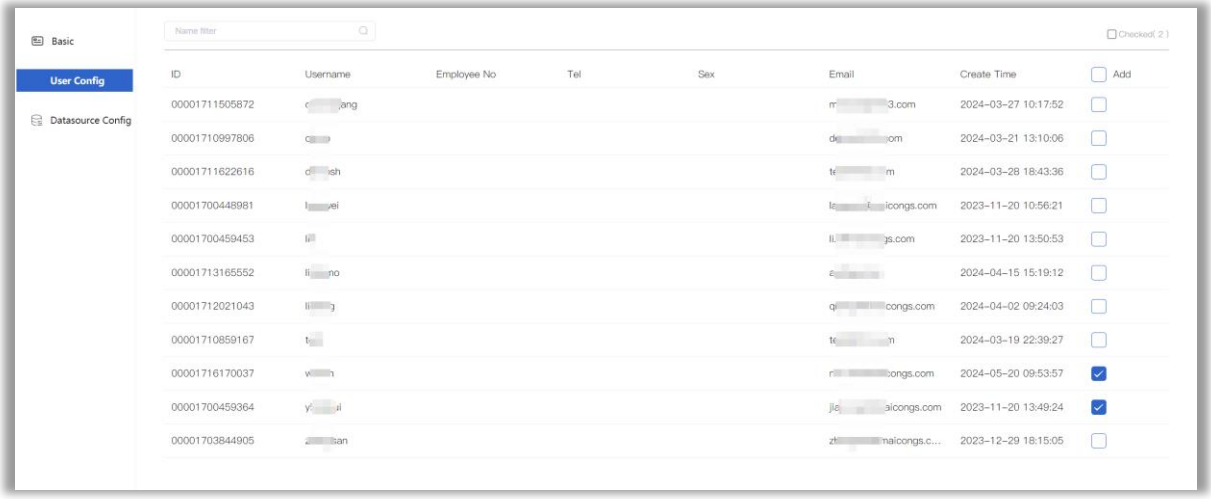
Users can be assigned to different groups based on their permissions.



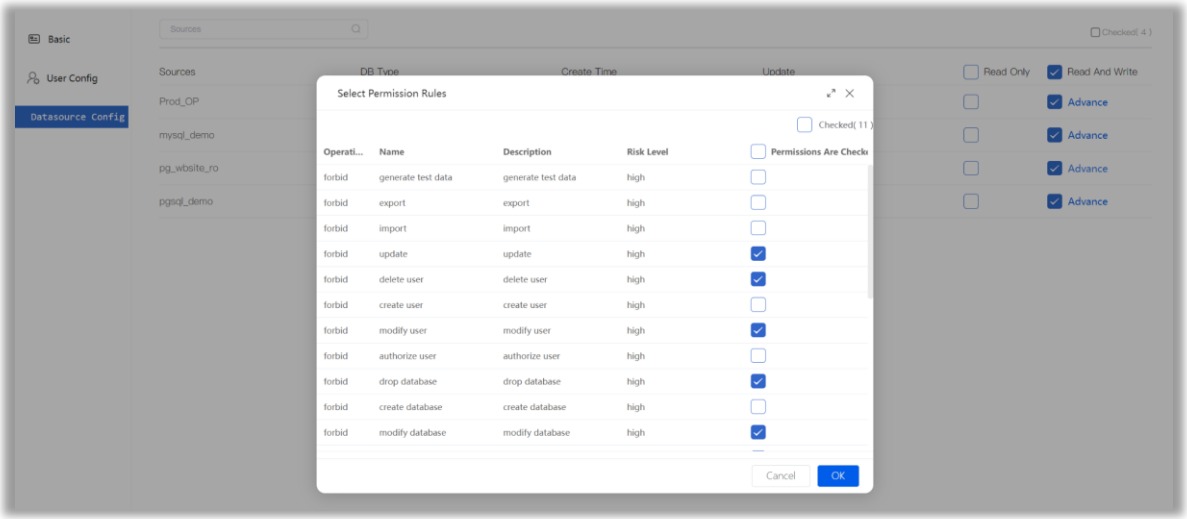
4.6.3 Role Settings

Group with varying permissions can be created, with the ability to add or remove group members. This setup allows for the management of user permissions for accessing and editing data sources.





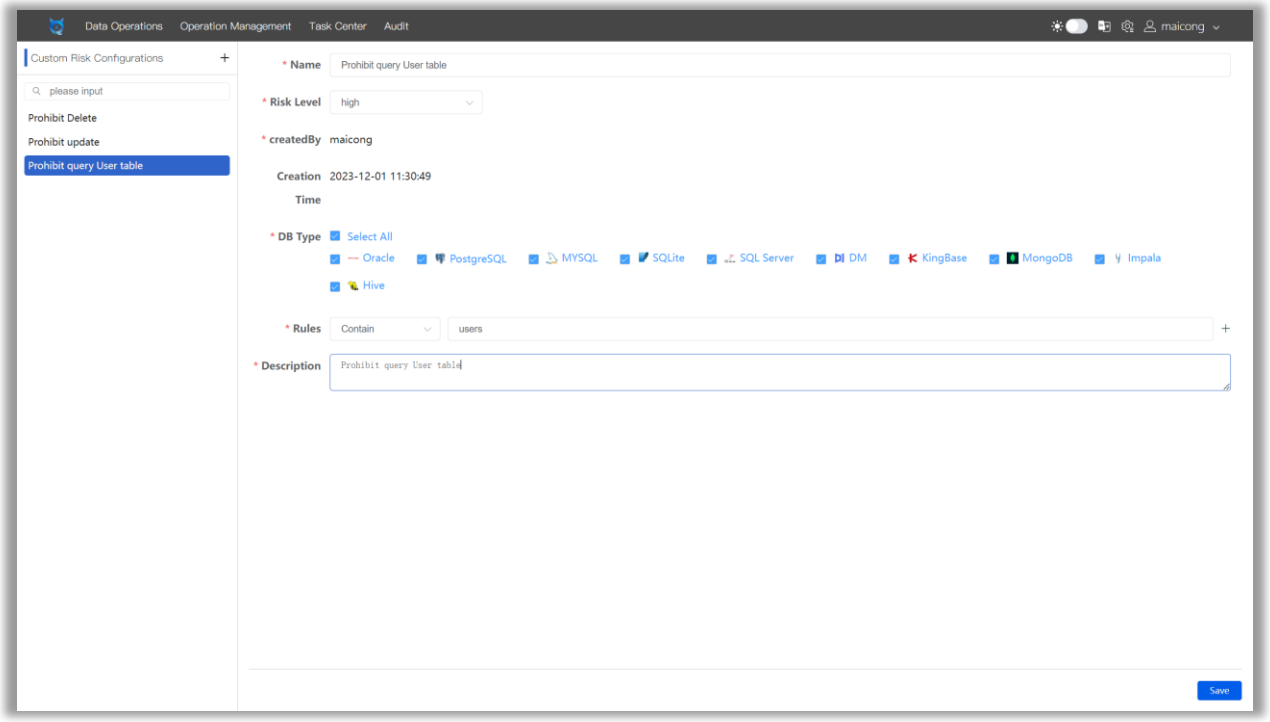
SQLynx Premium supports advanced configurations, allowing administrators to set permissions that restrict group members from performing specific data operations on tables such as select, delete, update, etc.



4.6.4 Risk Configuration

With over twenty common risk rules preset in the advanced configuration based on the 4.6.3 role settings, users can further customize the risk rules according to their needs, for example, " prohibit update", "prohibit query user table", etc.

Once the risk rules are successfully configured and saved, they will be synchronized to the role settings > advanced configuration list for user access.

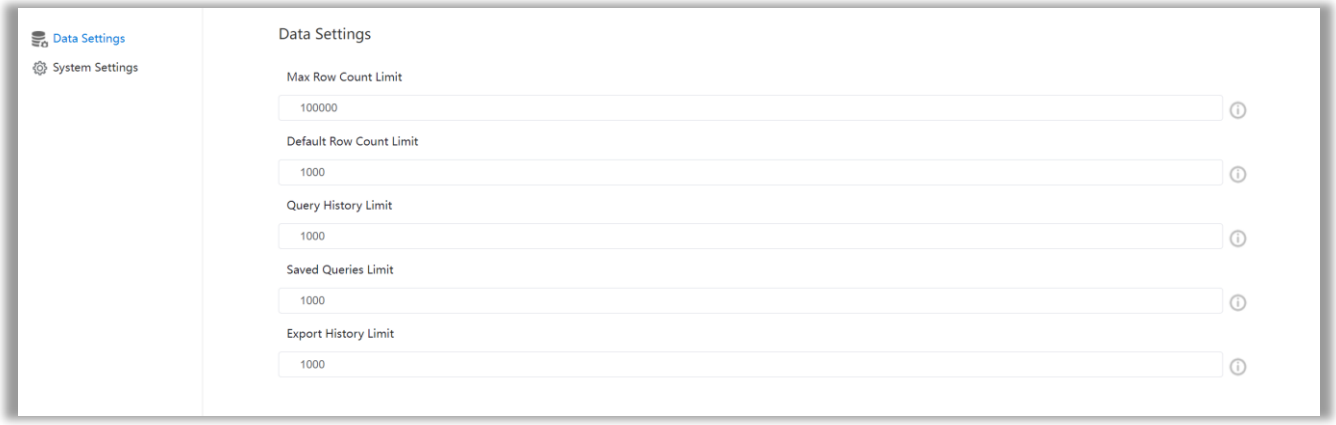


4.6.5 System Setup

You can adjust the settings for query results, JVM, and system theme according to the user's actual usage needs.

4.6.5.1 Data Settings

Based on the user's actual usage needs, you can modify the following data parameters.



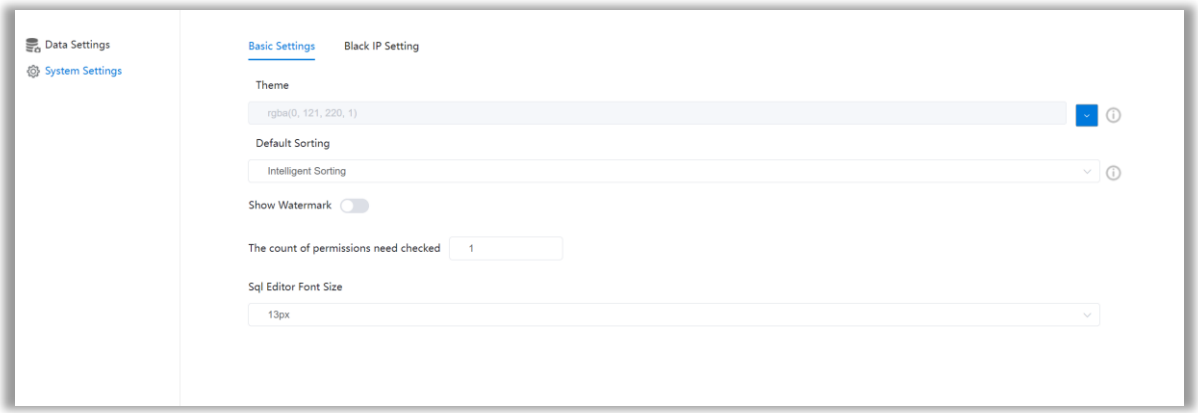
1. Modify to the desired numerical value.

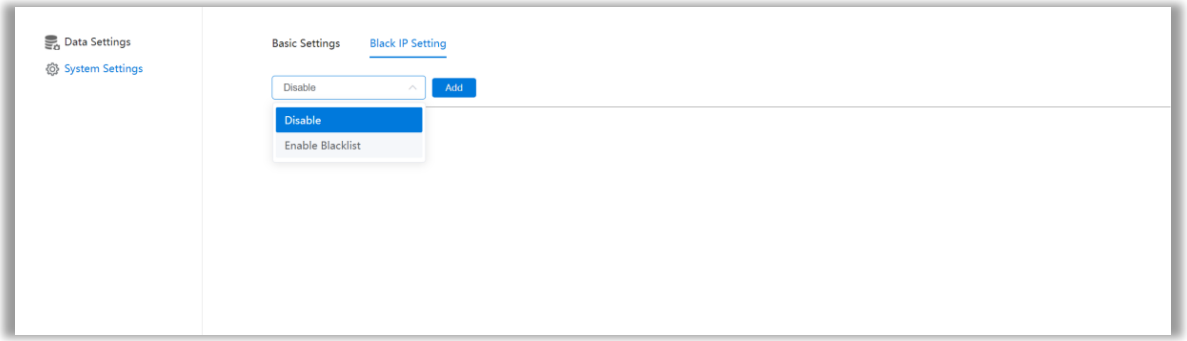
2. After saving, return to the homepage (no need to restart SQLynx).

#	Data Settings	Default	Description
1	Max Row Count Limit	10000	The upper limit of max rows returned when executing query statements in SQLynx.
2	Default Row Count Limit	1000	The upper limit of default rows returned when using "Execute" to query.
3	Query History Limit	1000	The upper limit of query history logs saved in "Query History".
4	Saved Queries Limit	1000	The upper limit of commonly used query statements saved in "Saved Query".
5	Export History Limit	1000	The upper limit of historical export data logs.

4.6.5.2 System Settings

According to the user's actual usage needs, you can modify the theme color and default sorting. After modification, save it without the need to restart SQLynx.





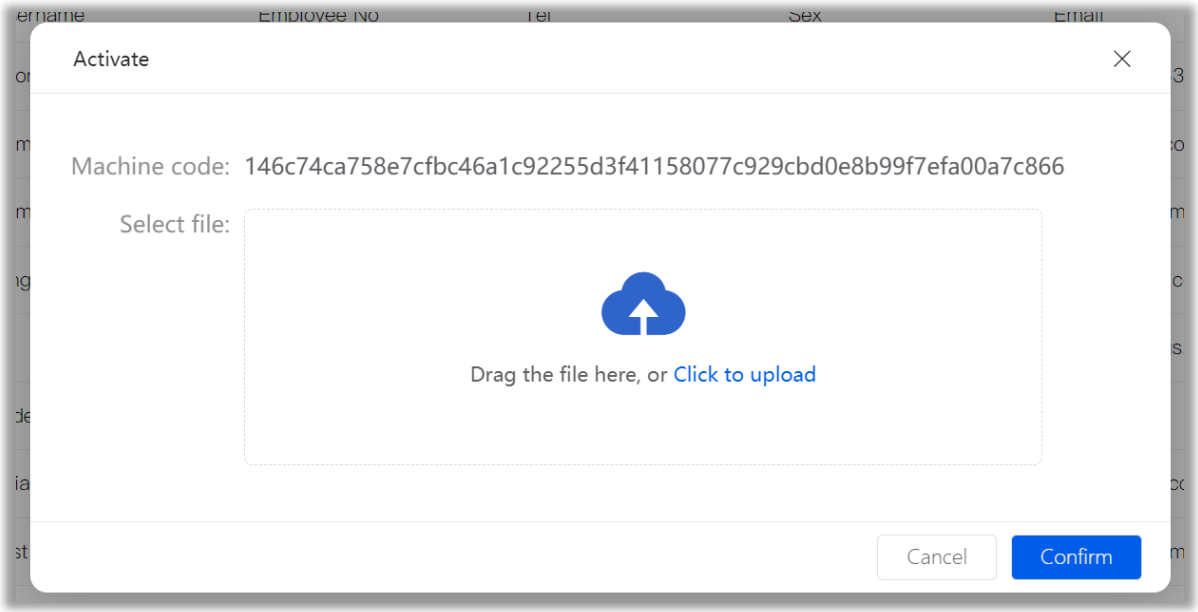
#	System Settings	Default	Description
1	Theme	Color Parameters	Default theme color scheme, can be customized according to user preferences
2	Default Sorting	Intelligent Sorting	default sorting rule within SQLynx
3	Show Watermark	Off	Option to toggle whether to display watermark
4	The count of permissions need checked	1	The upper limit of times allowed to check when applying for permissions.
5	SQL Editor Font Size	13px	Option to set the font size of the SQL editor (applies to all SQL editors)
6	Blacklist Setting	Disable	Option to enable or disable the blacklist feature

4.6.6 Switch Theme

You can switch between the default orange, blue, and purple theme colors.

4.6.7 Activate

When purchasing or renewing software products, you can upload the license file provided by SQLynx here to activate the SQLynx Premium.



4.7 Account

4.7.1 My Profile

1. Modify Login Password

Click on "Settings" to modify the password in the pop-up window。

2. Saved SQL

Display the user's "Saved Query" records, with options to modify, copy, or delete.

3. Snippets

Display the user's "Code Blocks" records, with options to modify or delete.

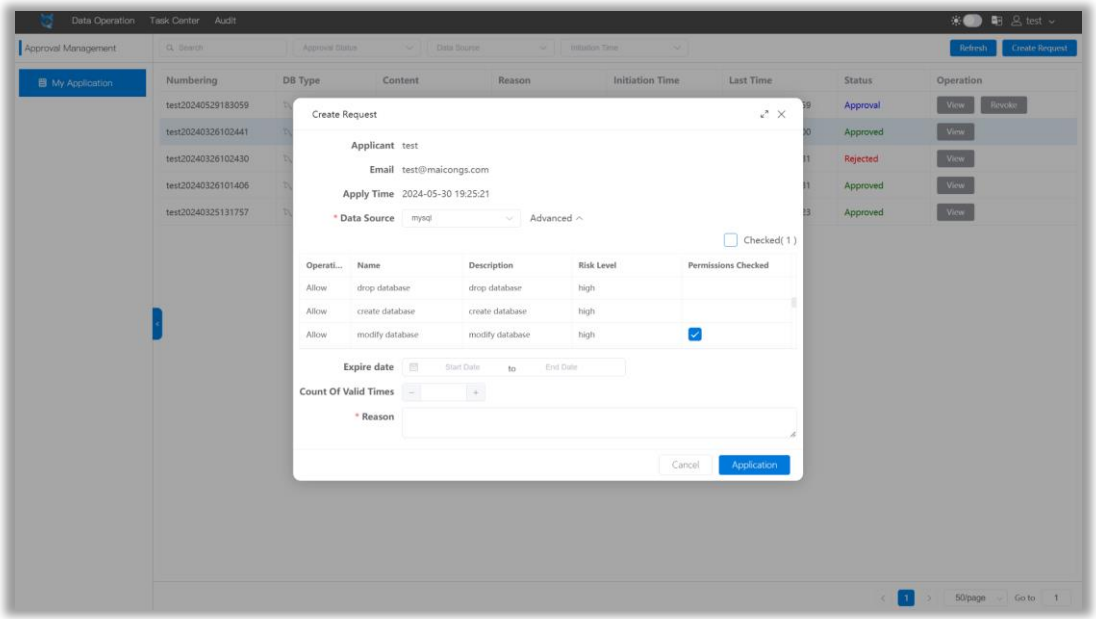
4. Preferences

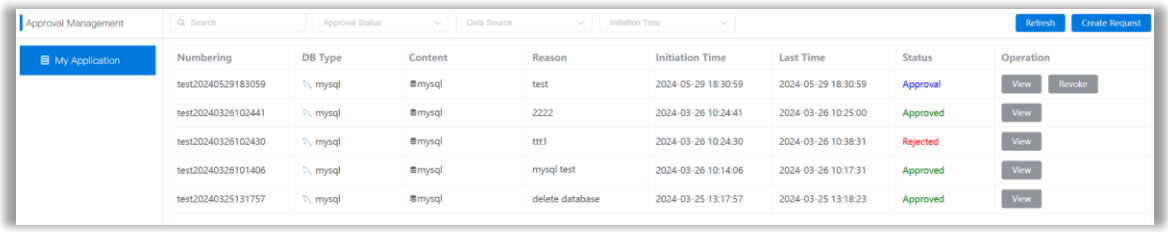
Display the user's current theme color scheme and default sorting rules.

4.7.2 Approval Management

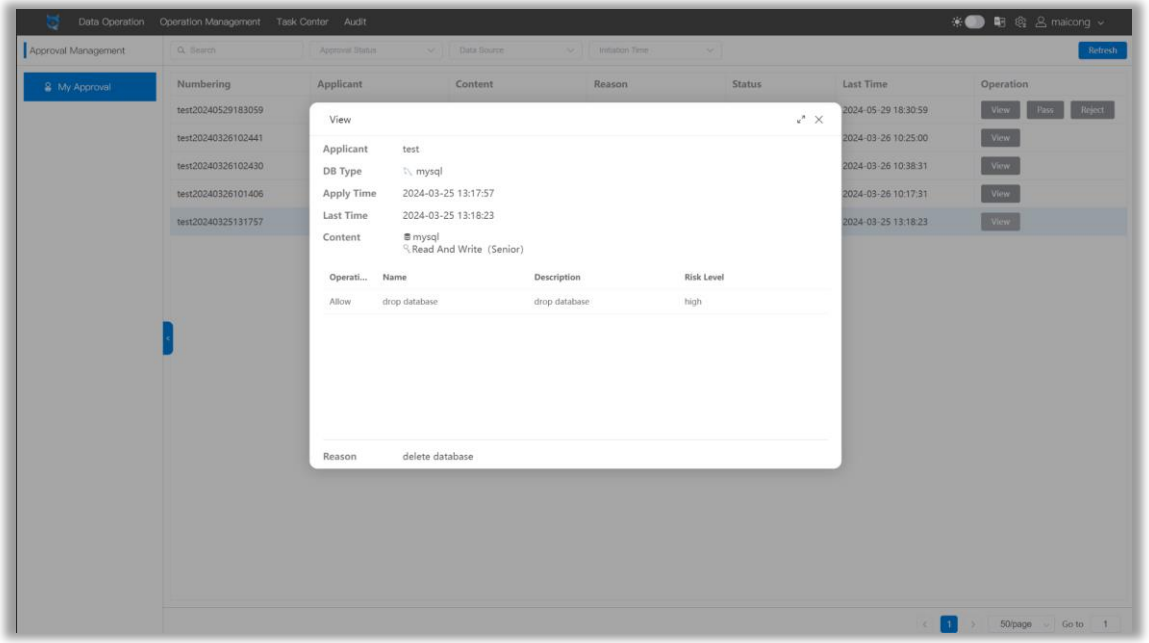
Requests for permission to access or perform actions on data sources, which are not currently allowed under their account, are initiated by users with normal user rights. After submission, these requests are reviewed and approved by administrators.

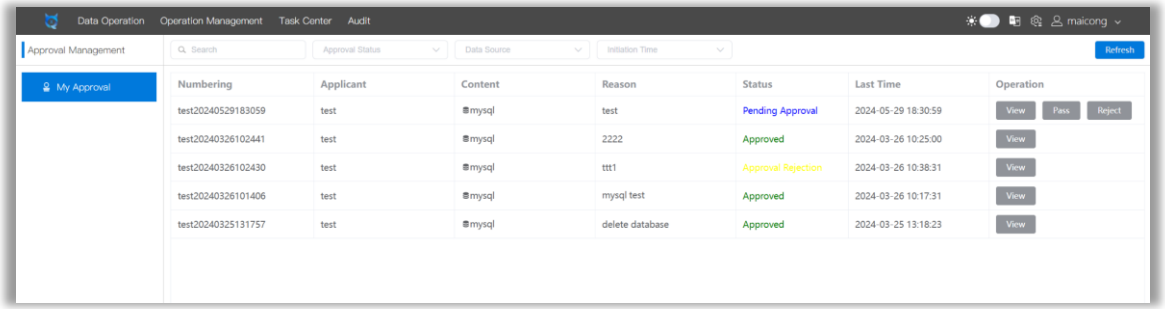
Approval management interfaces for normal user.





Approval management interfaces for administrator.





4.7.2 Support

SQLynx Offical Website: https://www.sqlynx.com

4.7.3 Feedback

Send an email to **service@sqlynx.com** for assistance.

4.7.4 About Us

Display the SQLynx version, Java version, and server time currently in use by the user.

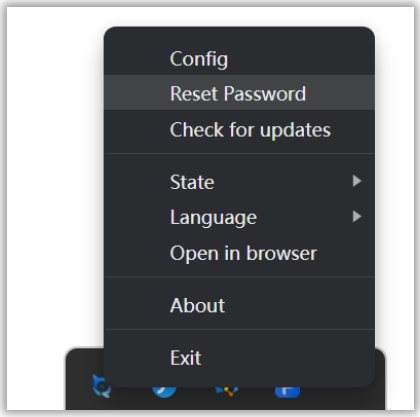
4.7.5 Sign Out

Sign out of the SQLynx account.

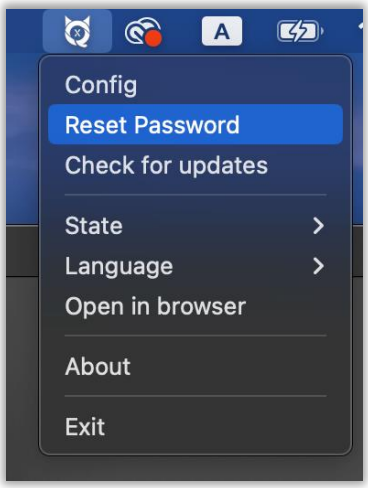
5. Q&A

5.1 How to Reset Password?

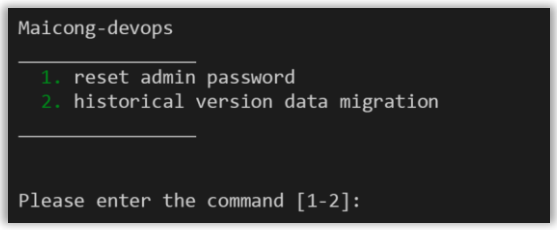
1. **Windows:** To reset your password in SQLynx, find the SQLynx icon in the system tray at the bottom right corner, right-click it to open a menu, select the reset password option, enter the new password in the popup, and reset it.



2. **Mac OS:** To reset your password in SQLynx, find the SQLynx icon in the status menu at the top right corner, right-click to open a menu, choose the reset password option, enter the new password in the popup, and reset it.



3. **Linux:** Run the command to access the following page, choose "1.reset admin password", enter the path for SQLynx database sqlite.db, then input the reset password. Successful update is indicated by "update SQLiteDb password is completed".



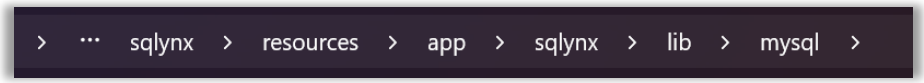
5.2 How to Customize Database Driver Packages?

5.2.1 Windows Version

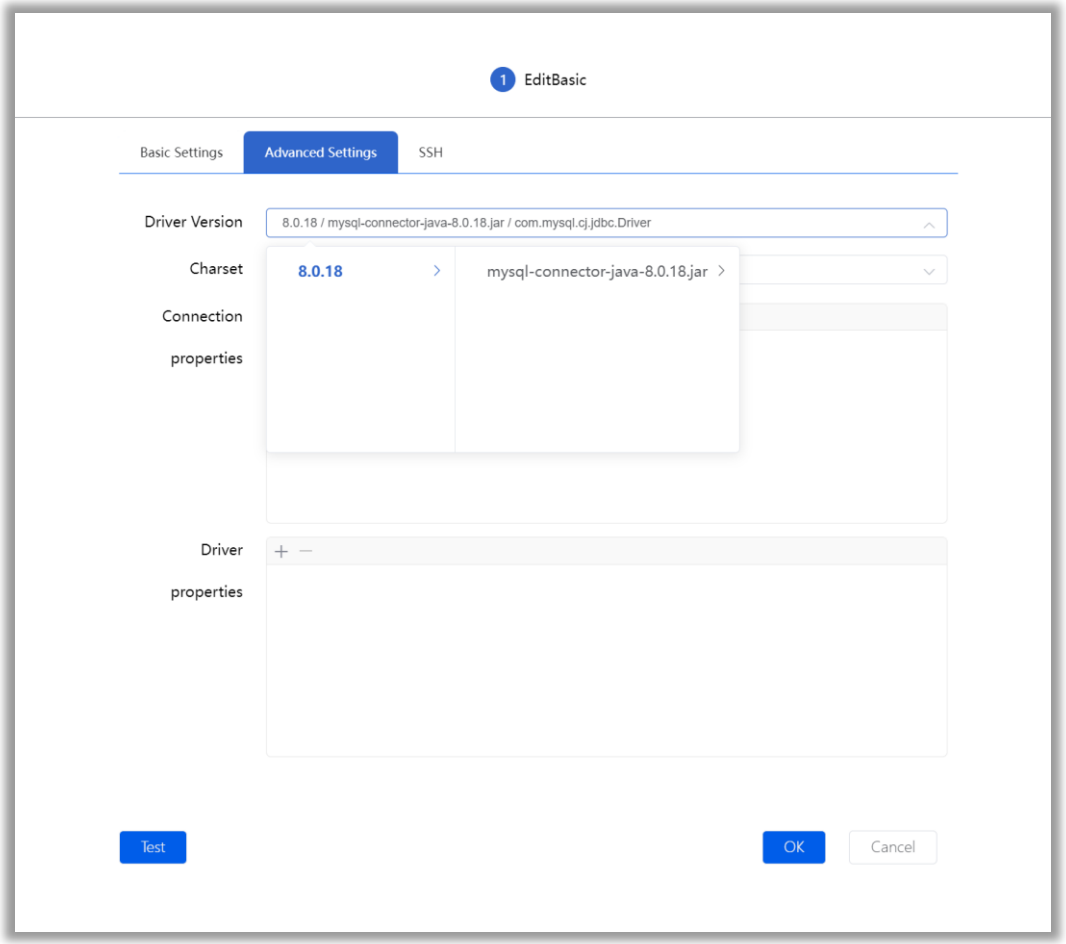
Applicable to **SQLynx Pro, SQLynx Enterprise, SQLynx Premium.**

1. Open the SQLynx folder at the following path:
\sqlynx_win_3.0.0\sqlynx\resources\app\sqlynx\lib

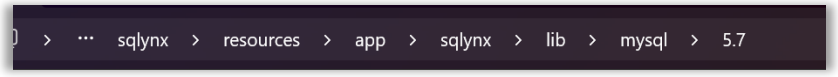
2. Choose the relevant database folder as needed (using MySQL as an example).

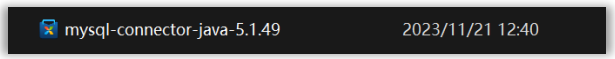


The currently selectable driver version under SQLynx data source configuration's advanced settings corresponds to 8.0.18.

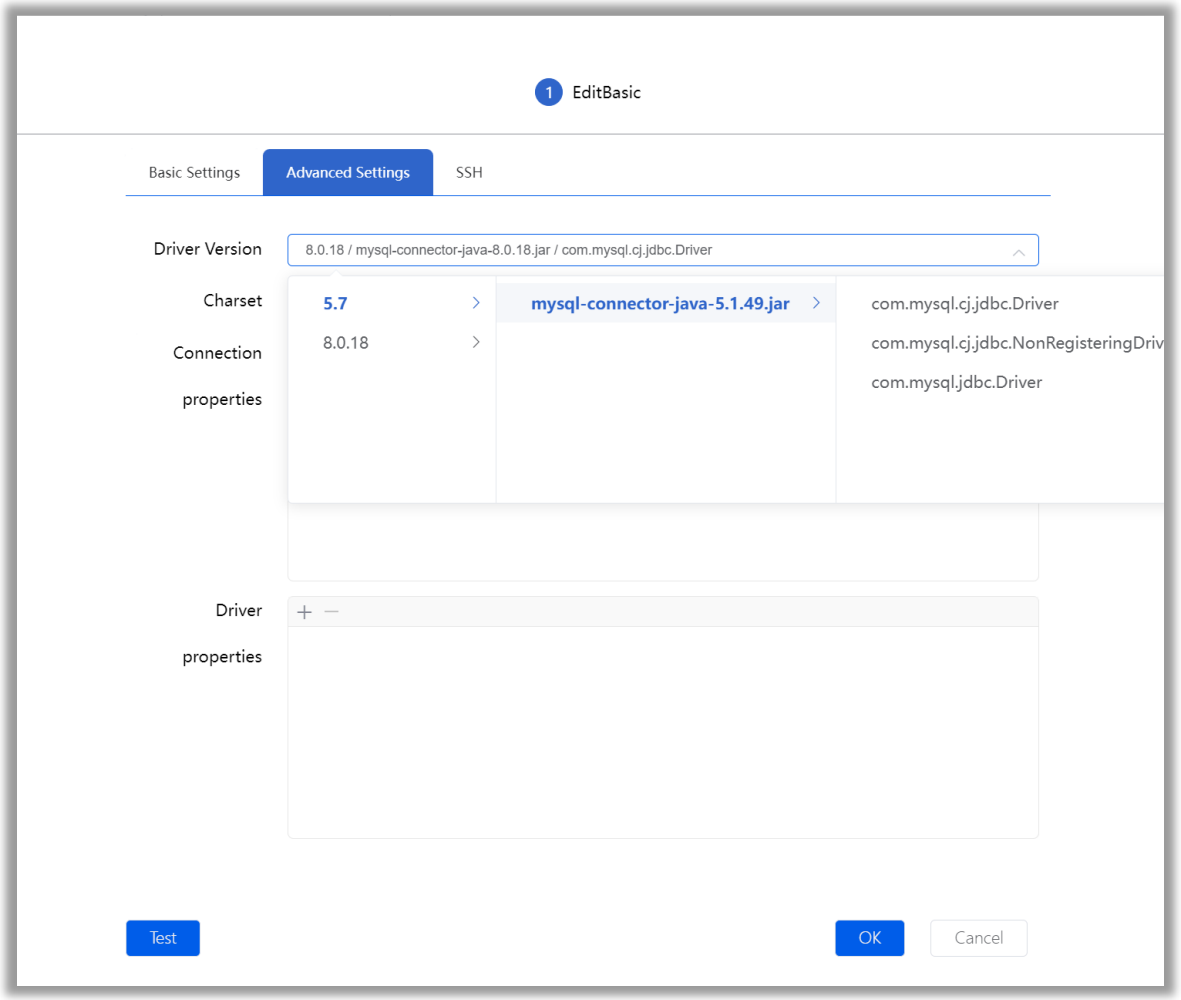


Create a new folder named after the driver package version you wish to replace (e.g., for version 5.7, it is recommended to name it after the version number), and copy the corresponding jar file into this folder.





Restart SQLynx, go to data source configuration - advanced settings, the custom saved 5.7 version driver package will appear in the dropdown menu.

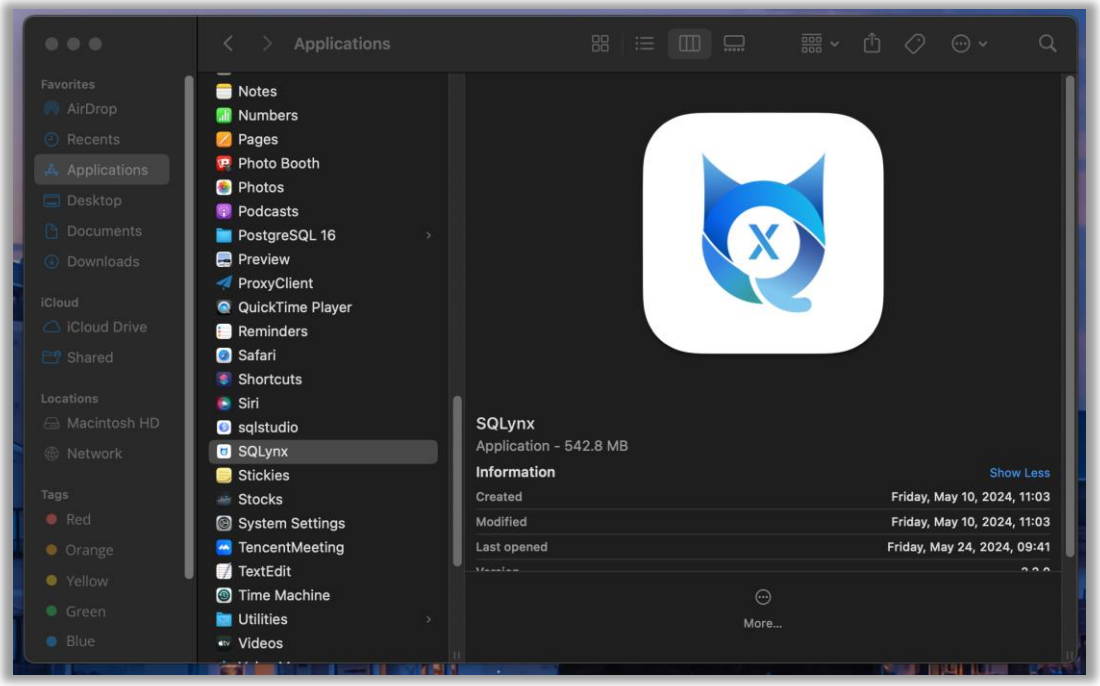


After switching to the custom driver package, click "Test" again to ensure the data source connection is normal. Successful test means the driver package has been successfully changed, click OK, return to the main window, and it can be used normally. The method to add other database drivers is the same as above.

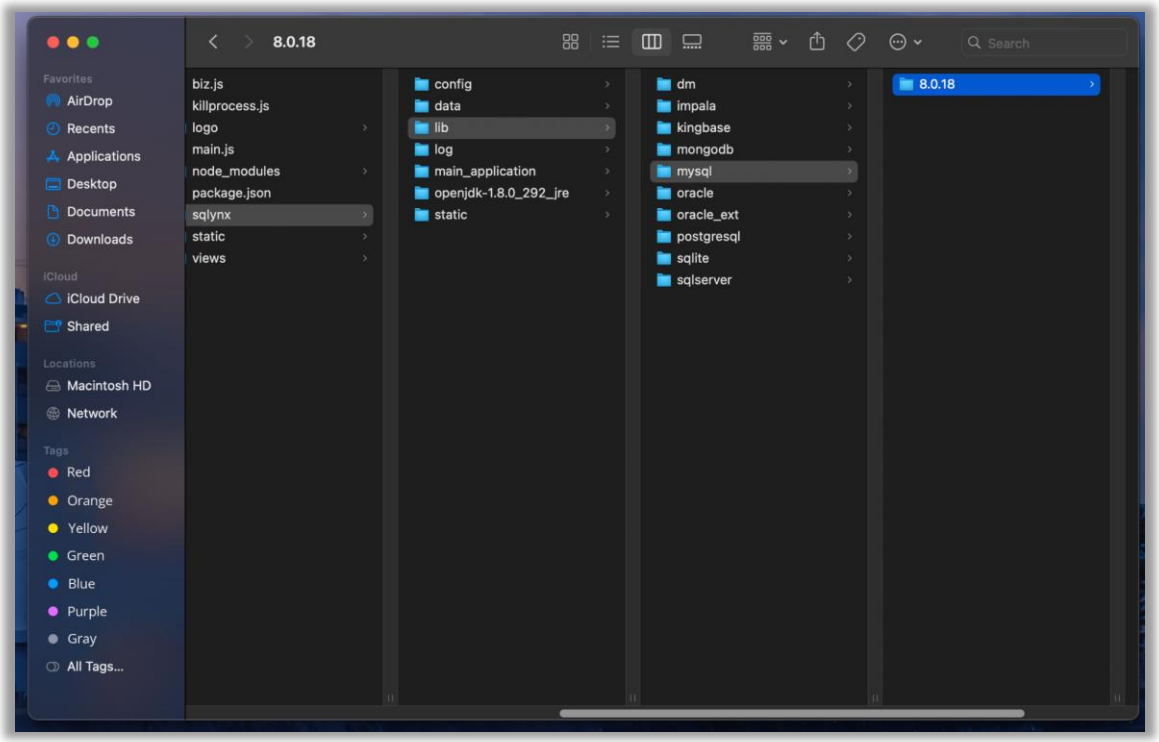
5.2.2 MacOS Version

Applicable to **SQLynx Pro.**

1. Open Applications, select SQLynx as shown below.

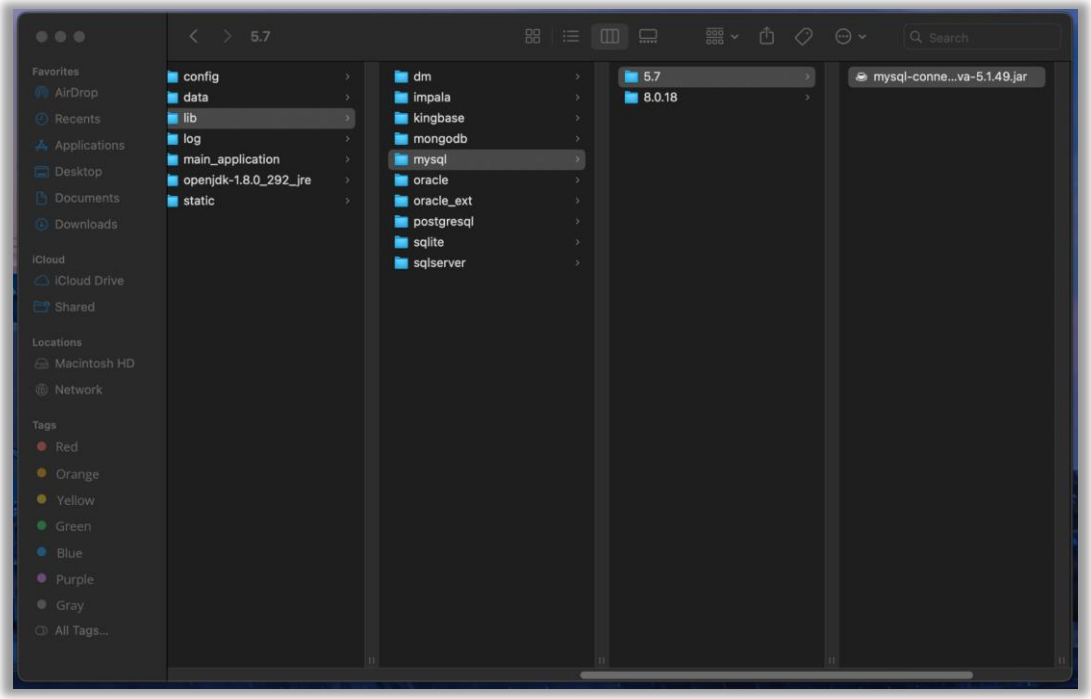


2. Right-click on the SQLynx icon and select "Show Package Contents", then follow the directory (using MySQL as an example):
/Applications/SQLynx.app/Contents/Resources/app/sqlynx/lib/mysql

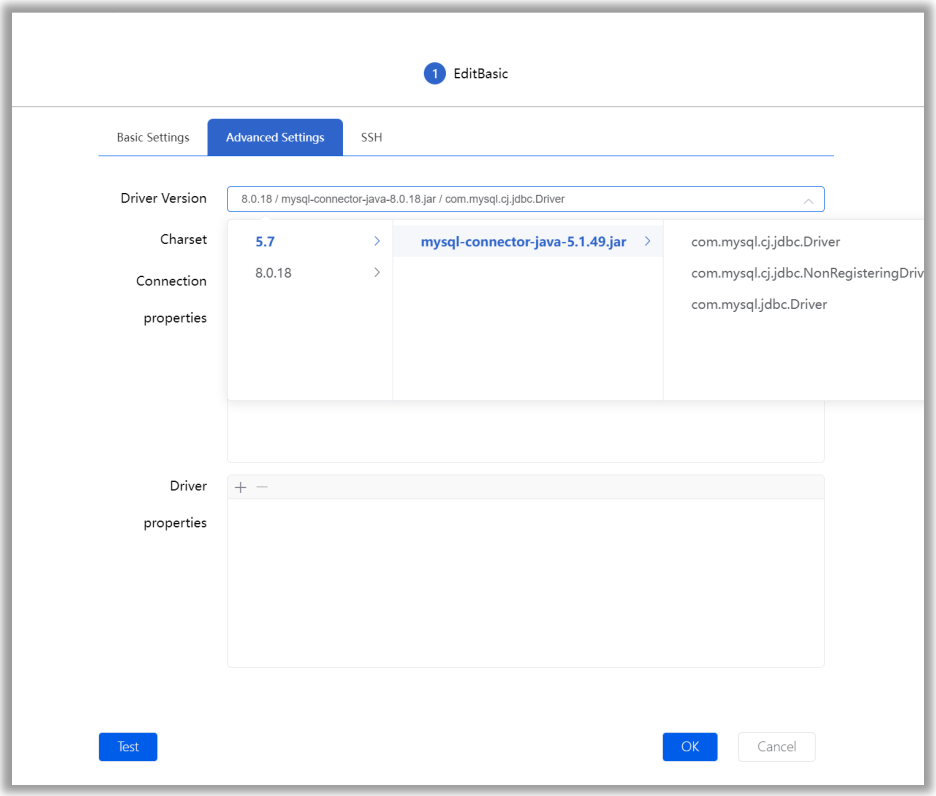


3. To add a 5.7 MySQL driver, create a folder named 5.7, as shown below (it is recommended to name it after the version number).

4. Go into the 5.7 folder, place the appropriate driver downloaded from the database's official website into the folder, as shown below.



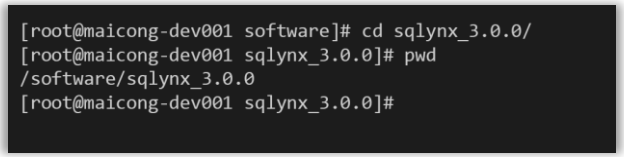
5. Restart SQLynx.
6. In adding a data source, you can see the just added driver for MySQL, and the method for adding other database drivers is the same as above.



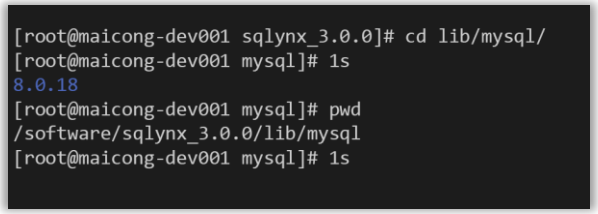
5.2.3 Linux Version

Applicable to **SQLynx Pro, SQLynx Enterprise, SQLynx Premium.**

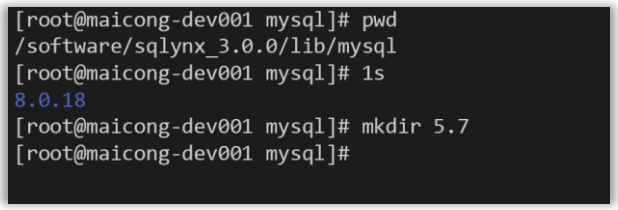
1. Open the main directory of SQLynx, located in the software folder under sqlynx_3.0.0
   cd sqlynx_3.0.0/



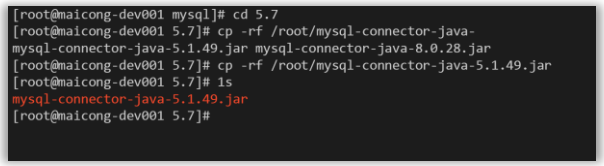
2. Navigate to the lib/mysql directory
   cd lib/mysql/



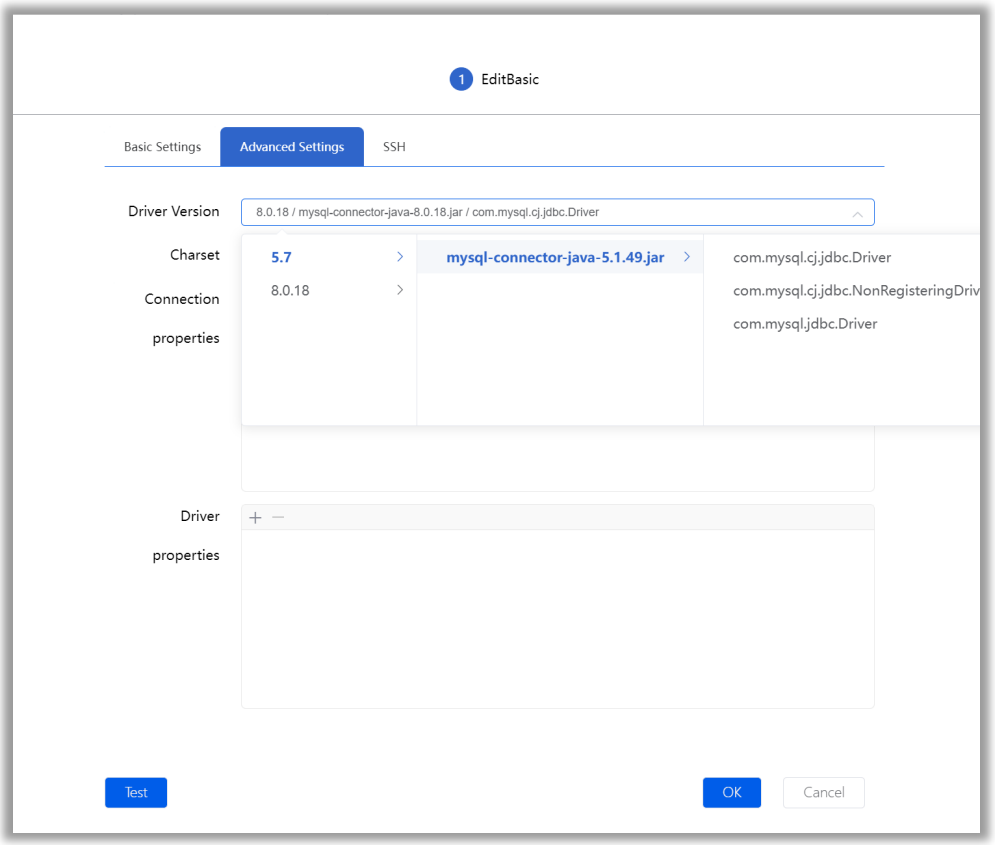
3. Create a folder named 5.7 (for version 5.7 as an example)
   mkdir 5.7



4. Put the corresponding database driver package JAR file into the newly created folder
cd 5.7
cp -rf /root/mysql-connector-java-5.1.49.jar



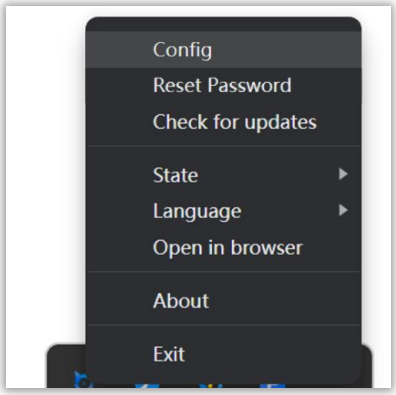
5. In adding a data source, you can select MySQL and see the just added driver, and the method for adding other database drivers is the same as above.

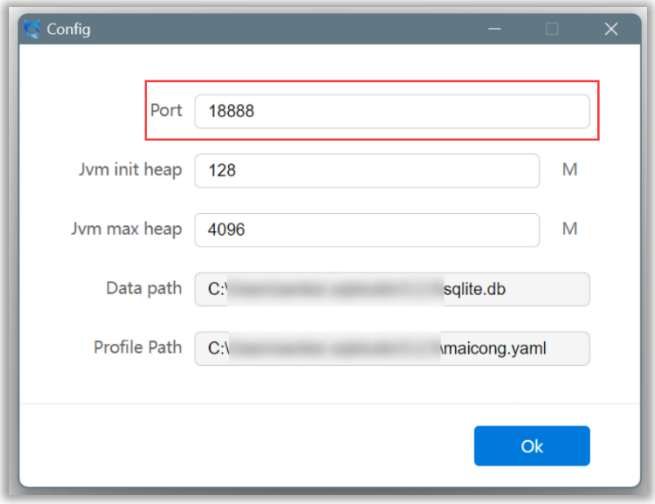


5.3 How to change the port number?

5.3.1 Windows Version

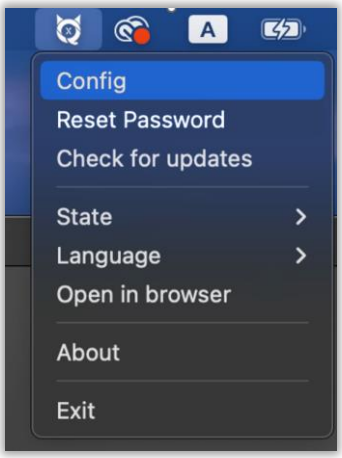
To change the port number in SQLynx, find the SQLynx icon in the system tray at the bottom right corner, right-click to open a menu, select the config option, modify the port number in the popup, save, and restart SQLynx to activate the changes.

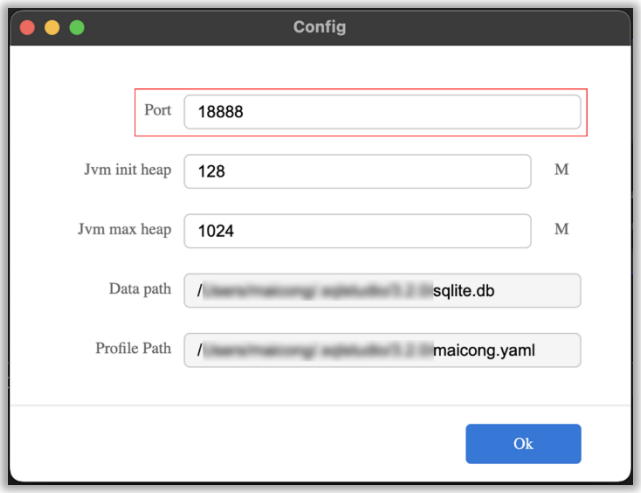




5.3.2 MacOS Version

To change the port number in SQLynx, find the SQLynx icon in the status menu at the top right, right-click to open a menu, select the config option, modify the port number in the popup, save, and restart SQLynx to activate the changes.





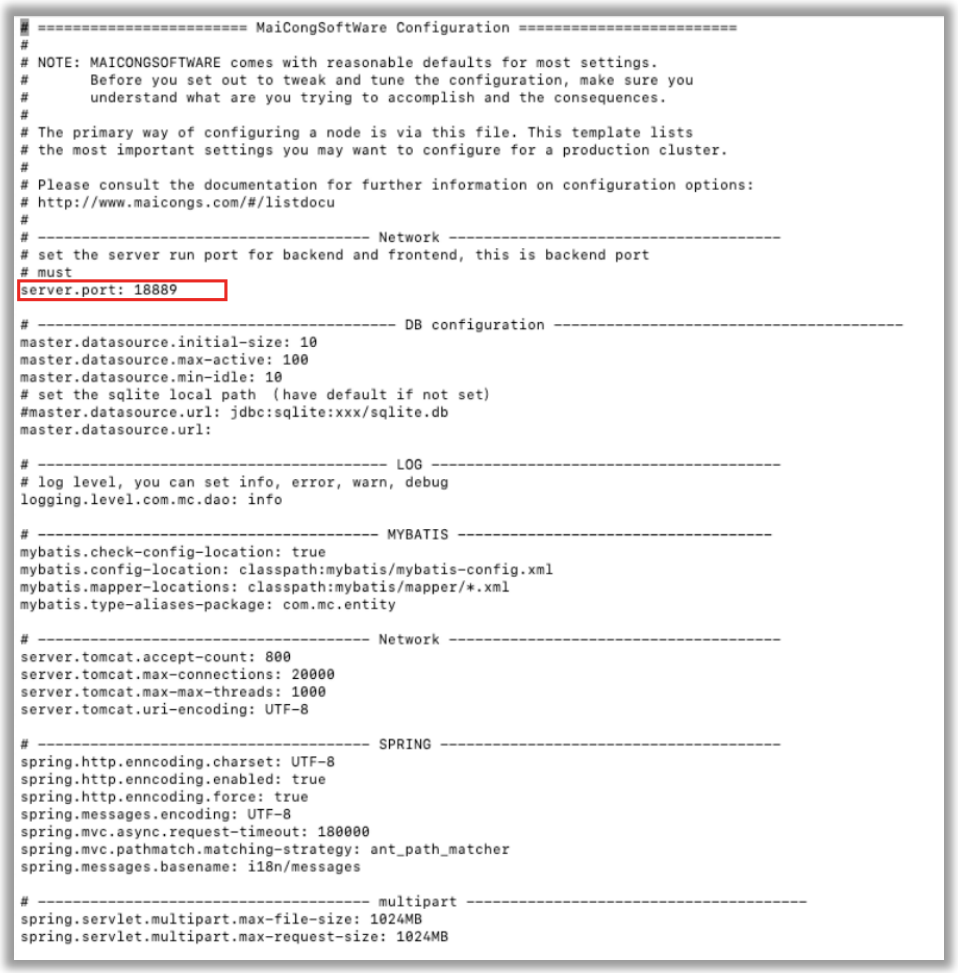
5.3.3 Linux Version

Enter the SQLynx directory and update the configuration file as illustrated.

1. Execute the command

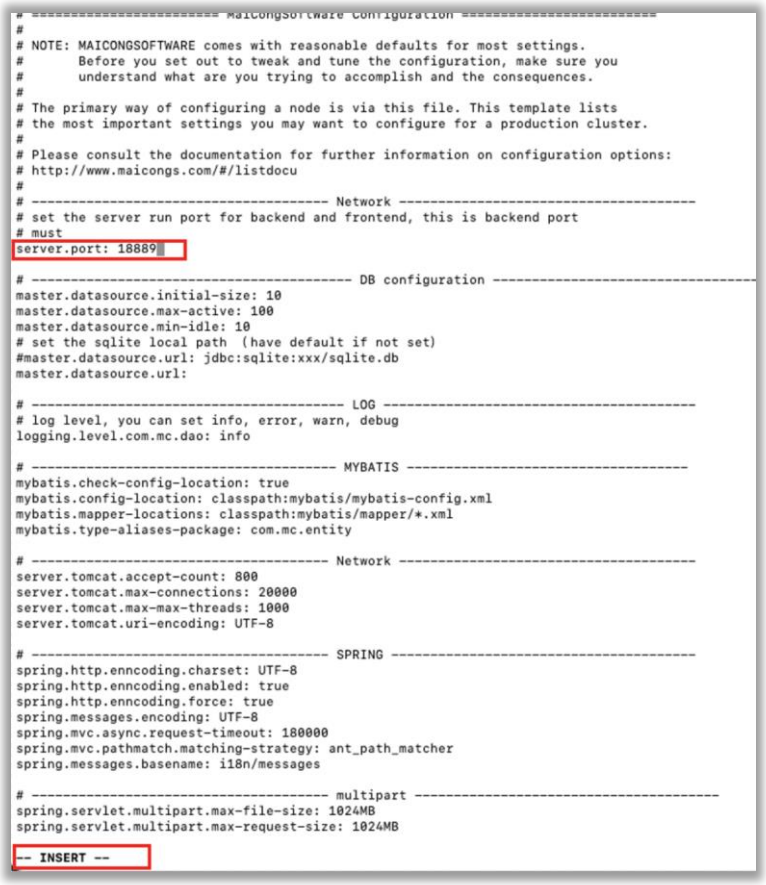
vi config/maicong.yaml

Display the following content.

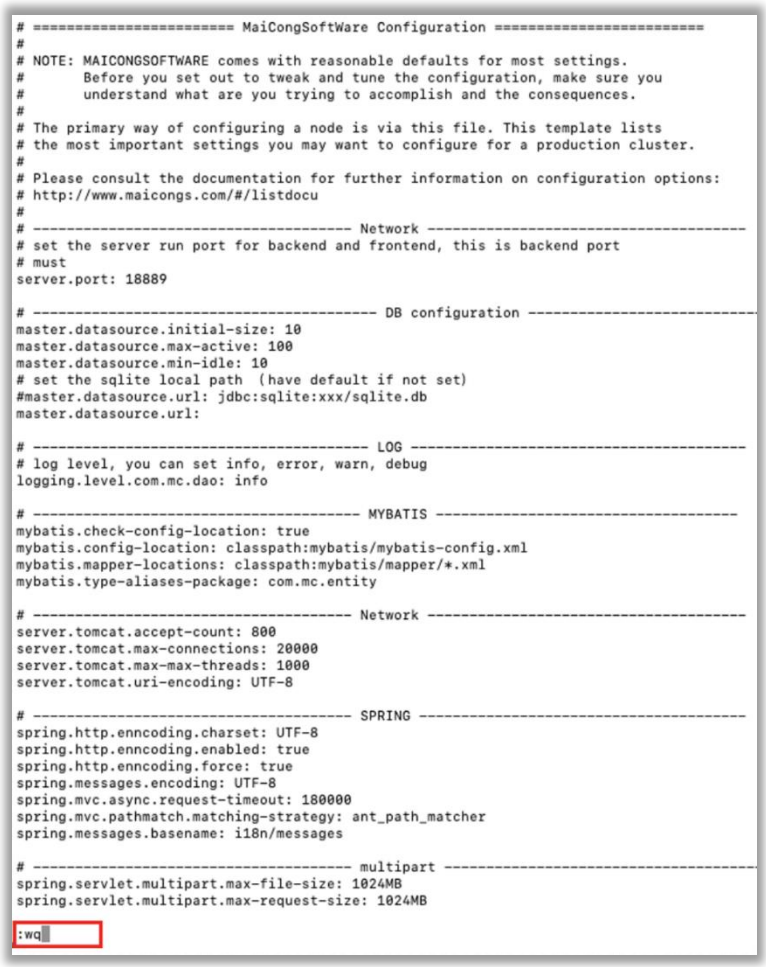


```
# ======================== MaiCongSoftWare Configuration =========================
#
# NOTE: MAICONGSOFTWARE comes with reasonable defaults for most settings.
#       Before you set out to tweak and tune the configuration, make sure you
#       understand what are you trying to accomplish and the consequences.
#
# The primary way of configuring a node is via this file. This template lists
# the most important settings you may want to configure for a production cluster.
#
# Please consult the documentation for further information on configuration options:
# http://www.maicongs.com/#/listdocu
#
# ----------------------------------- Network -----------------------------------
# set the server run port for backend and frontend, this is backend port
# must
server.port: 18889

# ------------------------------------------ DB configuration ------------------------------------------
master.datasource.initial-size: 10
master.datasource.max-active: 100
master.datasource.min-idle: 10
# set the sqlite local path  (have default if not set)
#master.datasource.url: jdbc:sqlite:xxx/sqlite.db
master.datasource.url:

# ------------------------------------------ LOG ------------------------------------------
# log level, you can set info, error, warn, debug
logging.level.com.mc.dao: info

# ------------------------------------- MYBATIS -------------------------------------
mybatis.check-config-location: true
mybatis.config-location: classpath:mybatis/mybatis-config.xml
mybatis.mapper-locations: classpath:mybatis/mapper/*.xml
mybatis.type-aliases-package: com.mc.entity

# ------------------------------------- Network -------------------------------------
server.tomcat.accept-count: 800
server.tomcat.max-connections: 20000
server.tomcat.max-max-threads: 1000
server.tomcat.uri-encoding: UTF-8

# ------------------------------------- SPRING -------------------------------------
spring.http.enncoding.charset: UTF-8
spring.http.enncoding.enabled: true
spring.http.enncoding.force: true
spring.messages.encoding: UTF-8
spring.mvc.async.request-timeout: 180000
spring.mvc.pathmatch.matching-strategy: ant_path_matcher
spring.messages.basename: i18n/messages

# ------------------------------------- multipart -------------------------------------
spring.servlet.multipart.max-file-size: 1024MB
spring.servlet.multipart.max-request-size: 1024MB
```

2. Press the i key to enter **INSERT** mode and change the server.port number.



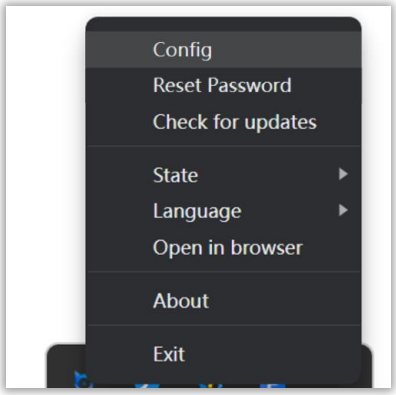
3. Press the esc key to exit INSERT mode, then type the command :wq to save the changes and exit.

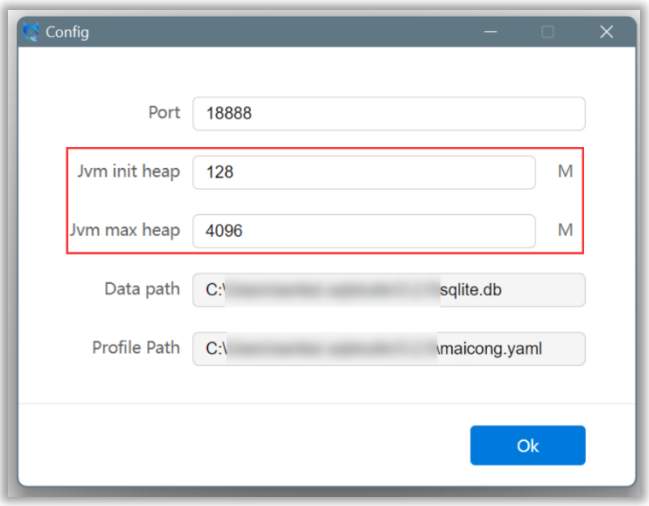


5.4 How to modify the JVM heap size?

5.4.1 Windows Version

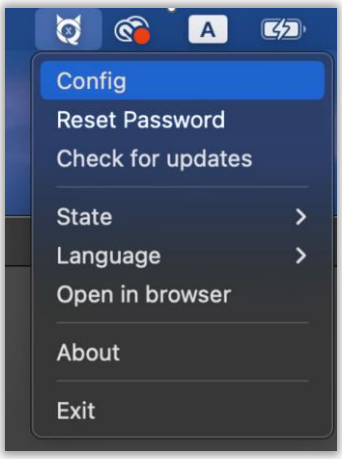
To modify the JVM heap size in SQLynx, find the SQLynx icon in the system tray at the bottom right, right-click and select the config option, adjust the JVM heap size in the popup, save, and restart SQLynx for the changes to take effect.

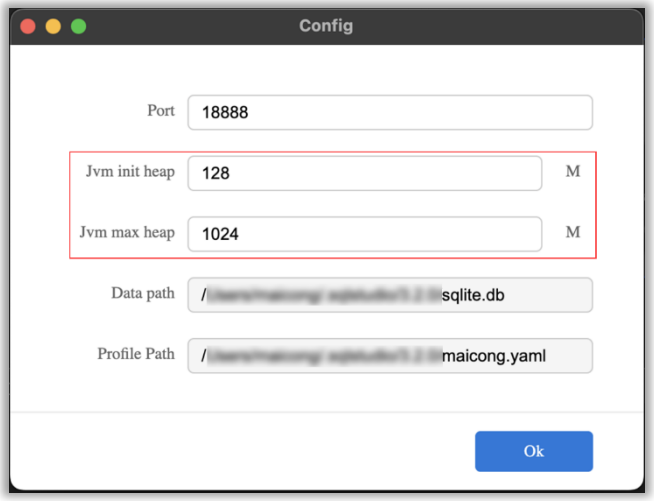




5.4.2 MacOS Version

To modify the JVM heap size in SQLynx, find the SQLynx icon in the status menu at the top right corner, right-click and select the config option, adjust the JVM heap size in the popup, save, and restart SQLynx for the changes to take effect.





5.4.3 Linux Version

Enter the SQLynx directory and update the configuration file following the example.
1.Execute the command
vi maicong-sqlynx.sh
to see the following:

```
#!/bin/bash

red='\033[0;31m'
green='\033[0;32m'
yellow='\033[0;33m'
plain='\033[0m'

SIGNAL=${SIGNAL:-TERM}
SHELL_FOLDER=$(cd "$(dirname "$0")";pwd)
APP_JAR=$(cd "$SHELL_FOLDER";ls Maicong-SQLStudio-*.jar)
LOG_PATH=$SHELL_FOLDER/log
PID=""
CMD=""

cd "$SHELL_FOLDER"


JAVA_OPTS="
-server
-Xms256m
-Xmx4g
-XX:+UseG1GC
-XX:+UseStringDeduplication
-Xloggc:./log/maicong-sqlstudio-gc.log
-XX:+HeapDumpOnOutOfMemoryError
-XX:HeapDumpPath=./log/maicong-sqlstudio-heapdump
-Dfile.encoding=utf-8"


start(){
  init
  if [ -n "$PID" ]; then
    echo -e "${red}maicong-sqlstudio server is running and try restart server${plain}"
    kill -s $SIGNAL $PID
  fi
  if [ ! -d "$LOG_PATH"  ];then
    mkdir "$LOG_PATH"
  fi

  nohup java $JAVA_OPTS -jar "$SHELL_FOLDER"/$APP_JAR >"$LOG_PATH"/maicong-sqlstudio-console.log 2>&1 --

  echo "                                                                  "
  echo " _ __ ___   __ _(_) ___ ___  _ __   __ _     __| | __ _  __ _ ___  "
  echo "| '_ \` _ \ / _\` | |/ __/ _ \| '_ \ / _\` |   / _\` |/ _\` |/ _\` / __| "
  echo "| | | | | | (_| | | (_| (_) | | | | (_| |  | (_| | (_| | (_| \__ \ "
  echo "|_| |_| |_|\__,_|_|\___\___/|_| |_|\__, |  \__,_|\__,_|\__,_|___/ "
  echo "                                    |___/                         "
  echo "                                                                  "
  echo -e "${green}maicong-sqlstudio server is started${plain}"
  echo  "JAVA_OPTS: $JAVA_OPTS"

  echo ""
  echo -e "${green}please waiting start${plain}"
```

-Xms represents the initial heap memory allocated by the JVM.
-Xmx represents the maximum heap memory that JVM allows to allocate.
Adjust the heap size based on the actual situation of the server.