

User Manual

ClairGeo-MMGT

Traffic Flow Data Collection Management Platform

Version: 1.0

TraffiClair Technology Co., Ltd.

Version Log

Date	Version	Description
2025.8.14	V1.0	Created.

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Chapter 1: Platform Installation Guide

Platform Server Hardware Requirements:

- CPU: 6+ cores
- RAM: Minimum 16GB
- Storage: Minimum 500GB

Platform Server OS Requirements:

- Install Windows Server OS (Version: Windows Server 2008 or later).

New PC Installation Steps:

- Pre-installation:
 - Create a folder named "mdmdet" in the **C:** drive.
 - Important: Ensure the system remains in English input mode during deployment to avoid symbol conflicts.

Platform Upgrade Steps:

- Replace the installation package JAR file, then proceed directly to Step 5.

1. Install MySQL Database

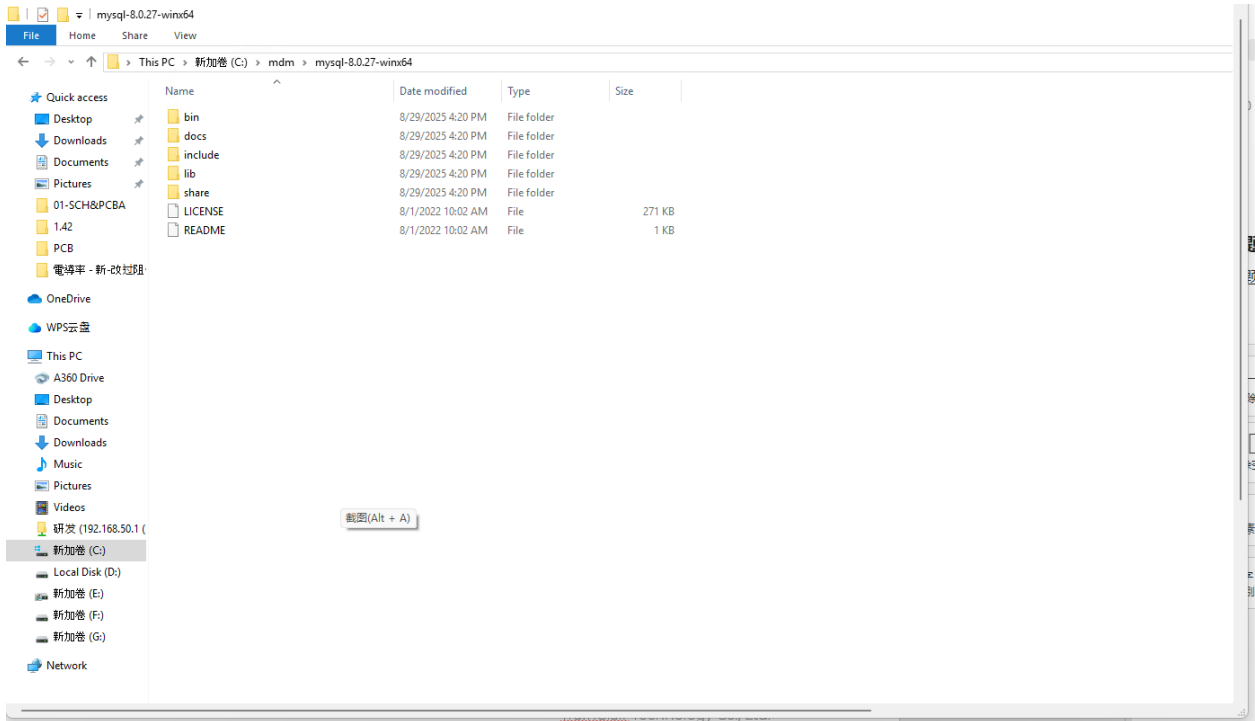
(1) Copy MySQL Files

- Open the deployment folder and copy the mysql-8.0.27-winx64 directory to C:\mdmdet.

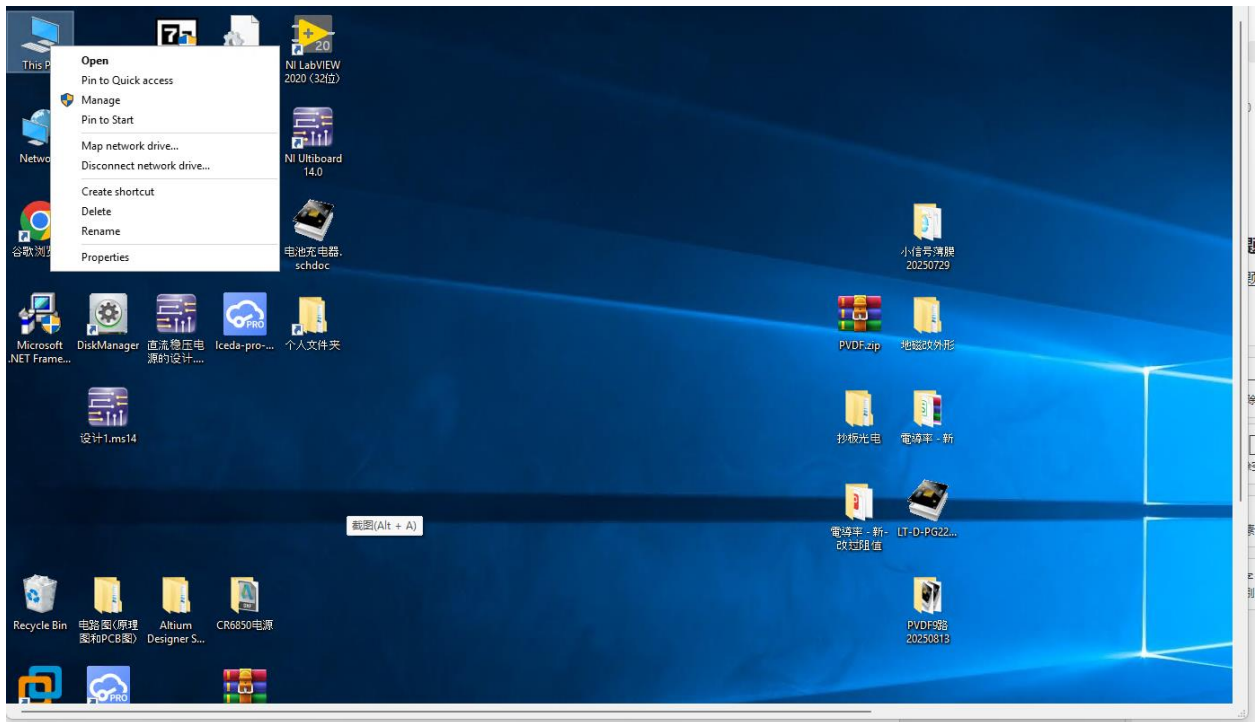
(2) Configure MySQL Path

- Navigate to the copied mysql-8.0.27-winx64 folder.
- Open the bin folder and copy its full path (as shown in the reference image).

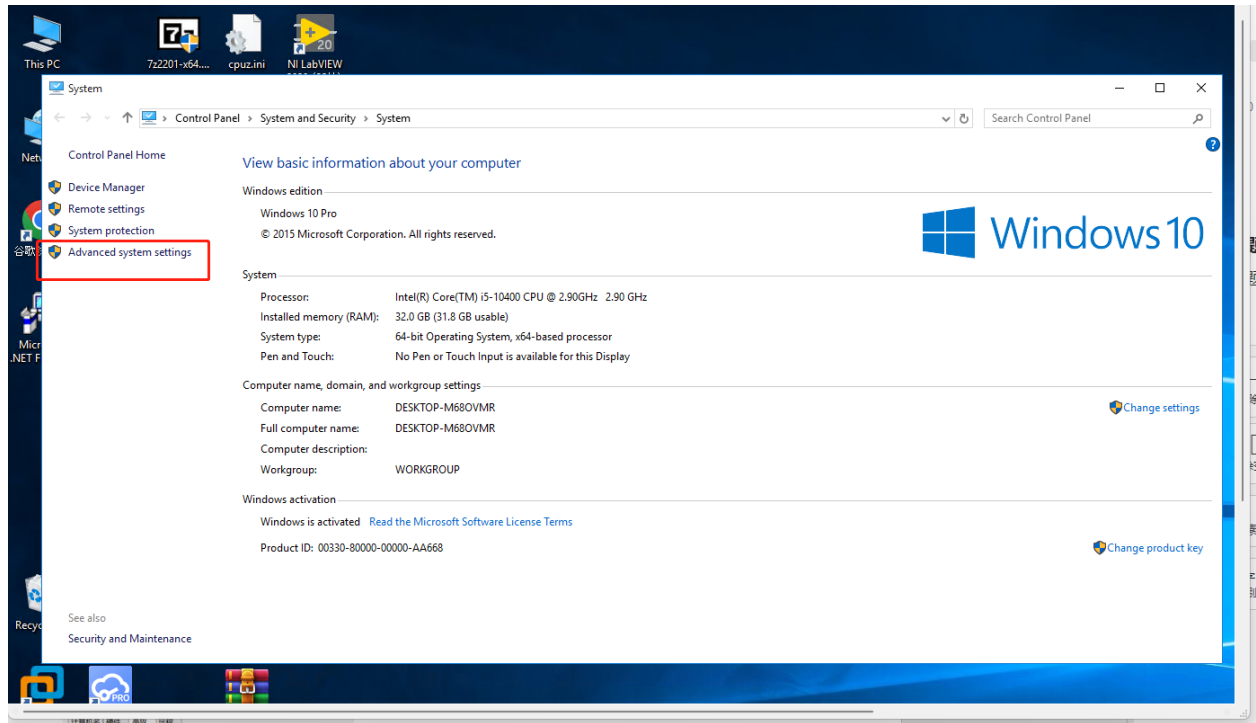
.



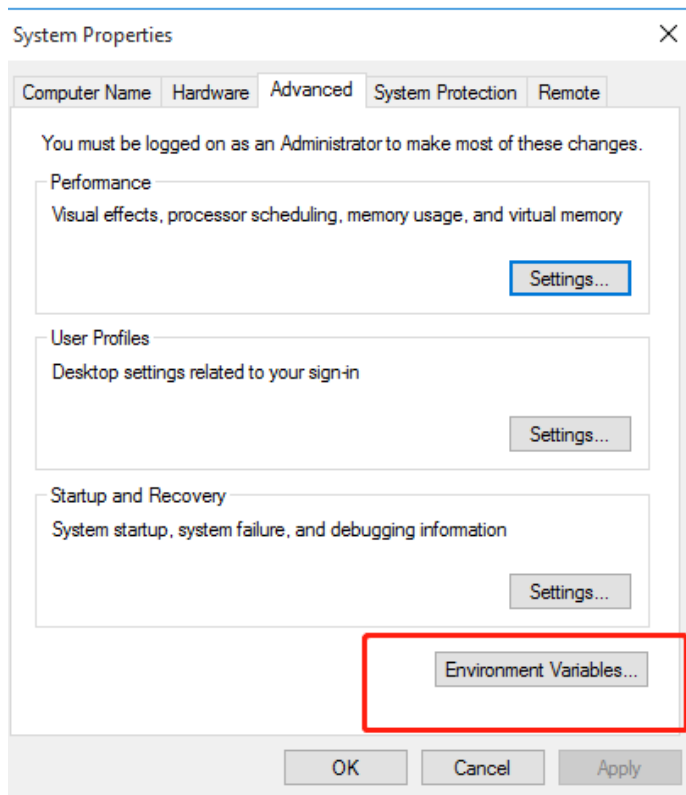
(3) Right-click on "My Computer" and select "Properties".



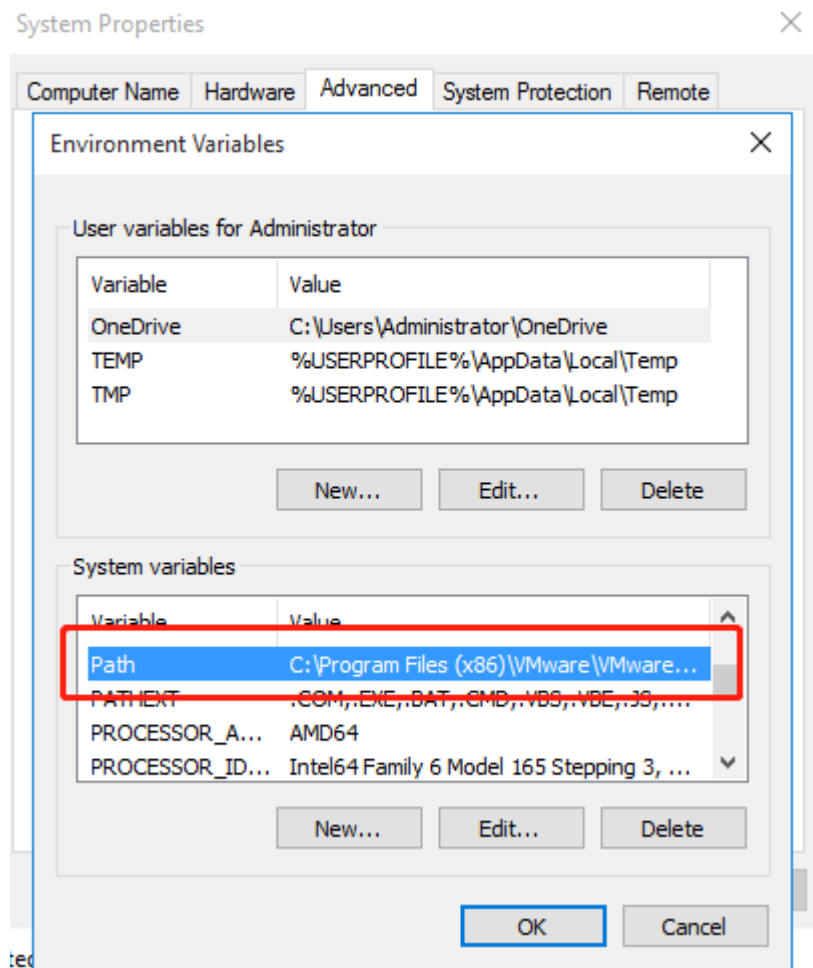
Click "Advanced system settings"



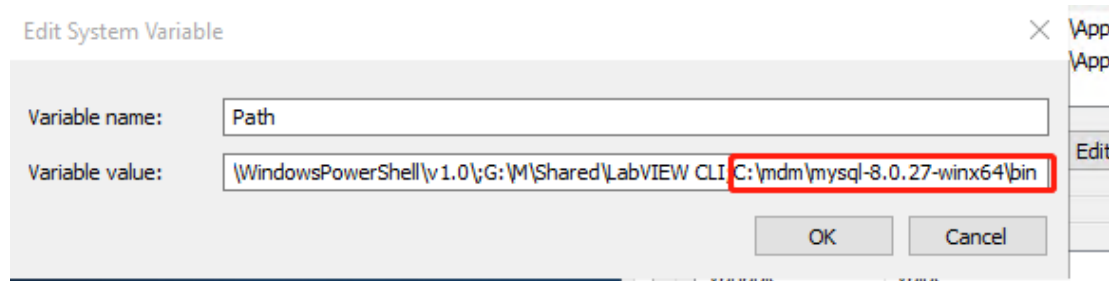
Click "Environment Variables" under Advanced settings



Locate and select the "Path" variable under System Variables



Select the "Path" variable and click "Edit". Paste the copied path C:\mdmdet\mysql-8.0.27-winx64\bin into the field. Note: Ensure to add a semicolon (;) before the new path if it follows an existing entry. Click "OK" to confirm (as shown in the reference image).

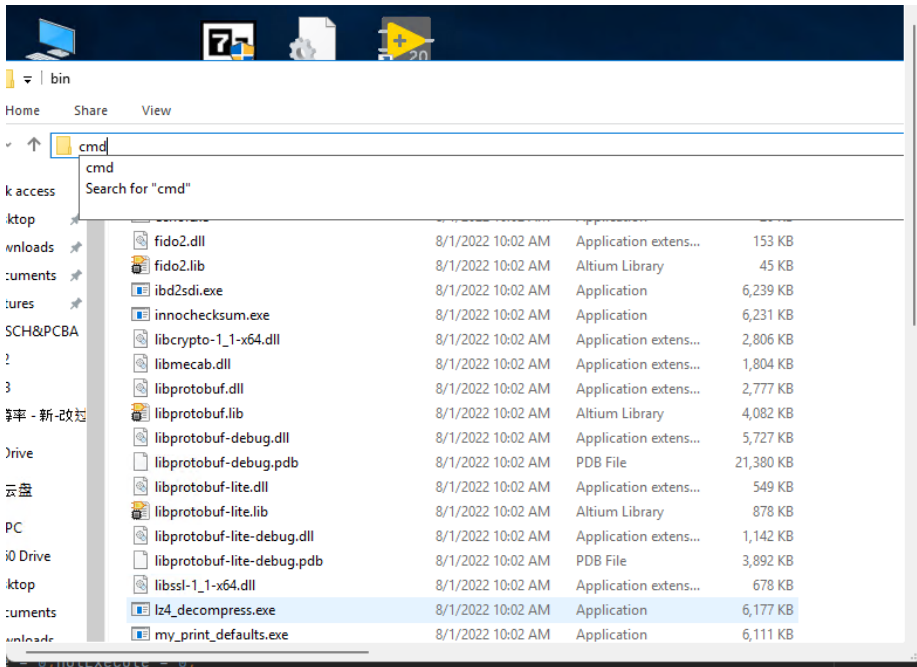


Click "OK"

(4) Navigate back to:

C:\mdmdet\mysql-8.0.27-winx64\bin

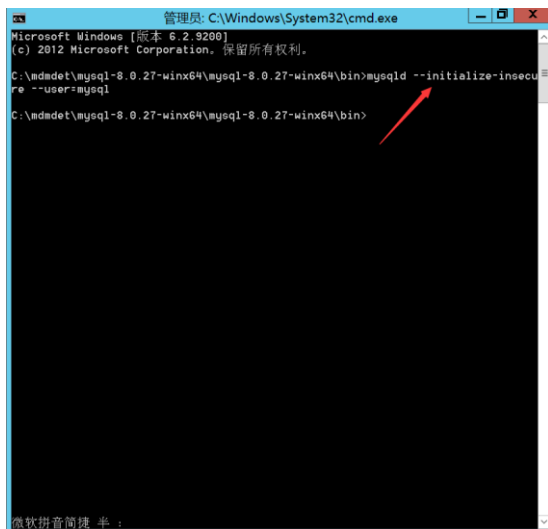
→ Type cmd in the address bar → Press Enter to launch Command Prompt.



Type the command:

`mysqld --initialize-insecure --user=mysql`

then press Enter to execute.

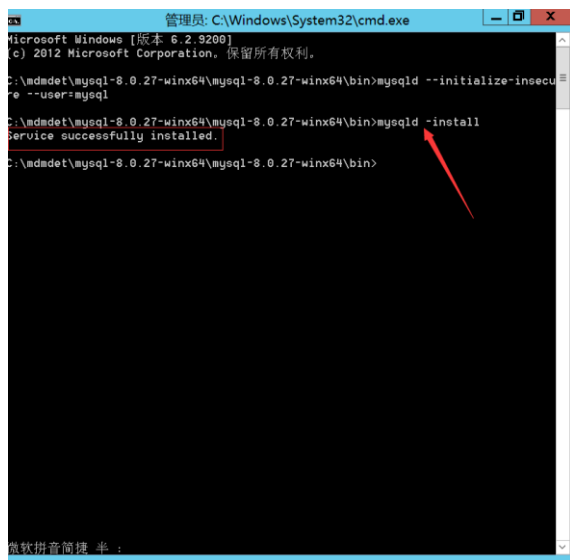


After the initialization completes, execute:

`mysqld --install`

then press Enter.

(Successful installation is confirmed when "Service successfully installed" appears.)



```

管理员: C:\Windows\System32\cmd.exe
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure
re --user=mysql

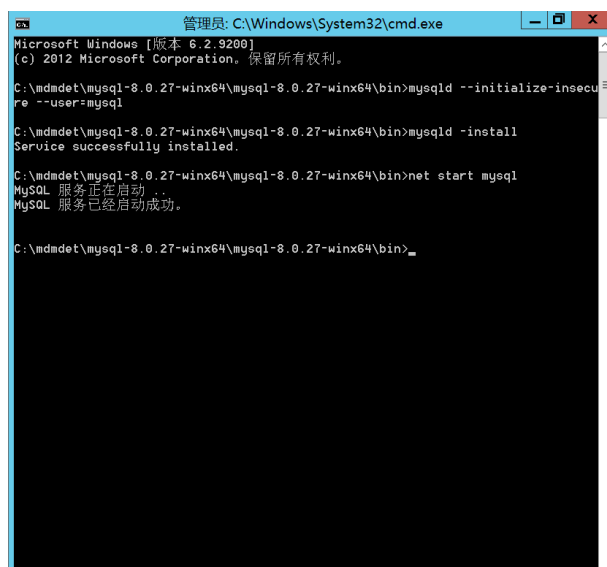
C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>
  
```

Execute the command:

`net start mysql`

and wait momentarily for MySQL to start.



```

管理员: C:\Windows\System32\cmd.exe
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure
re --user=mysql

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>net start mysql
MySQL 服务正在启动 . .
MySQL 服务已经启动成功。

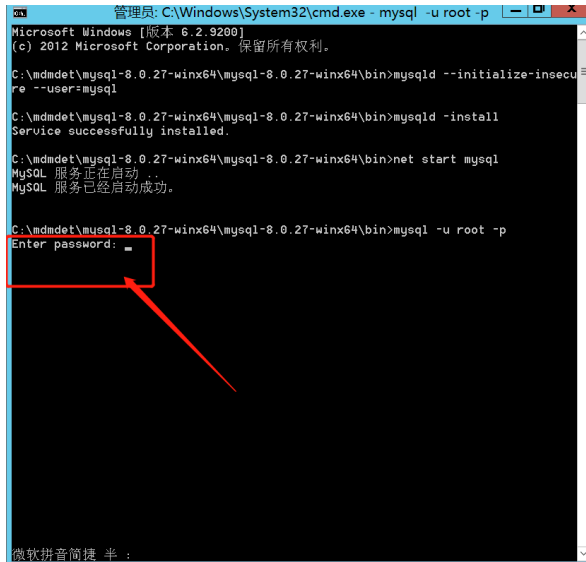
C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>
  
```

Execute the command:

`mysql -u root -p`

and press Enter.

(The MySQL monitor interface will appear as shown below.)



```

管理员: C:\Windows\System32\cmd.exe - mysql -u root -p
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

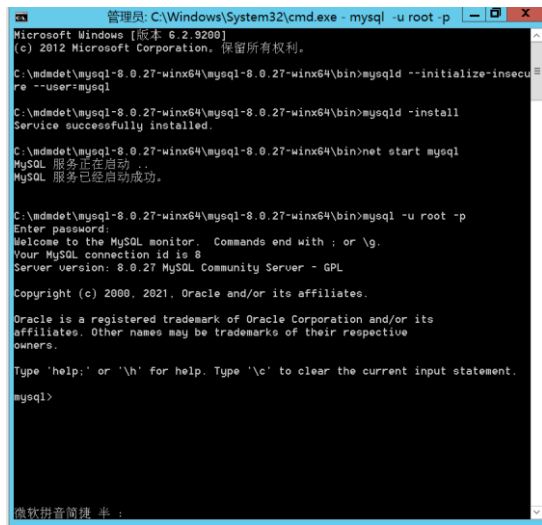
C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure
re --user=mysql

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>net start mysql
MySQL 服务正在启动 . .
MySQL 服务已经启动成功。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysql -u root -p
Enter password: 
  
```

Press Enter again to successfully log in to MySQL.



```

管理员: C:\Windows\System32\cmd.exe - mysql -u root -p
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure
re --user=mysql

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>net start mysql
MySQL 服务正在启动 . .
MySQL 服务已经启动成功。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysql -u root -p
Enter password: 
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.27 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
  
```

Type the command:

`ALTER USER user() IDENTIFIED BY "mpd88998880";`

and press Enter.

Note: The semicolon (;) at the end is mandatory (statement terminator). All symbols must be

half-width (ASCII characters only)

```

管理员: C:\Windows\System32\cmd.exe - mysql -u root -p
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure --user=mysql

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>net start mysql
MySQL 服务正在启动 . .
MySQL 服务已经启动成功。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.27 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql> alter user user() identified by "mpd88998880";

```

The following screen/image indicates successful installation.

```

管理员: C:\Windows\System32\cmd.exe - mysql -u root -p
Microsoft Windows [版本 6.2.9200]
(c) 2012 Microsoft Corporation. 保留所有权利。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --initialize-insecure --user=mysql

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysqld --install
Service successfully installed.

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>net start mysql
MySQL 服务正在启动 . .
MySQL 服务已经启动成功。

C:\mdmdet\mysql-8.0.27-winx64\mysql-8.0.27-winx64\bin>mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.27 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql> alter user user() identified by "mpd88998880";
Query OK, 0 rows affected (0.01 sec)

mysql>

```

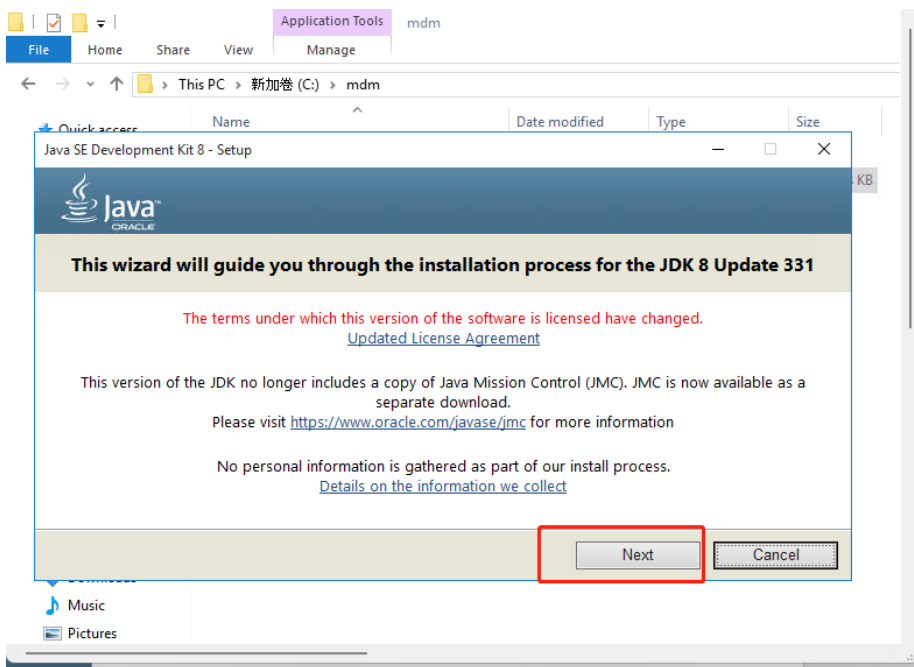
2. Install JDK 1.8

(1) Run the JDK Installer

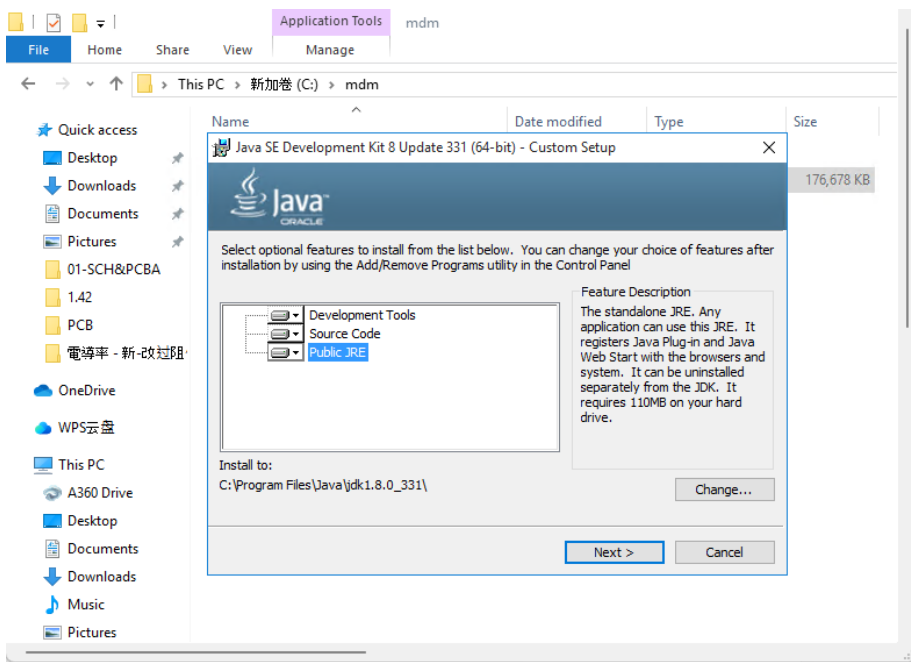
- Open the installation package folder → Navigate to Deployment Files → Run jdk-8u331-windows-x64.exe.

(2) Begin Installation

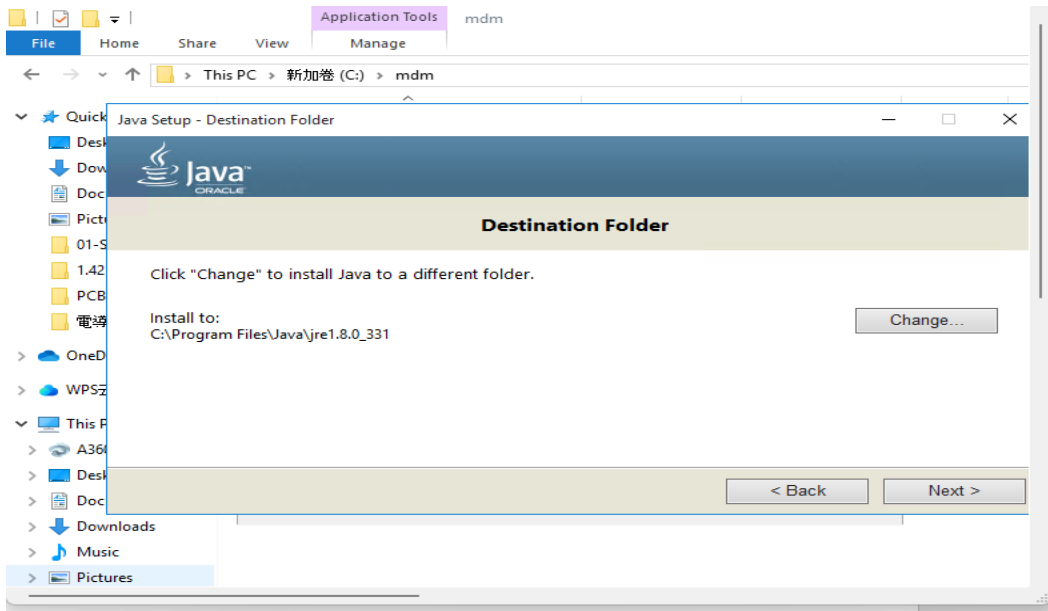
- Click Next to proceed with the setup.



Click Next

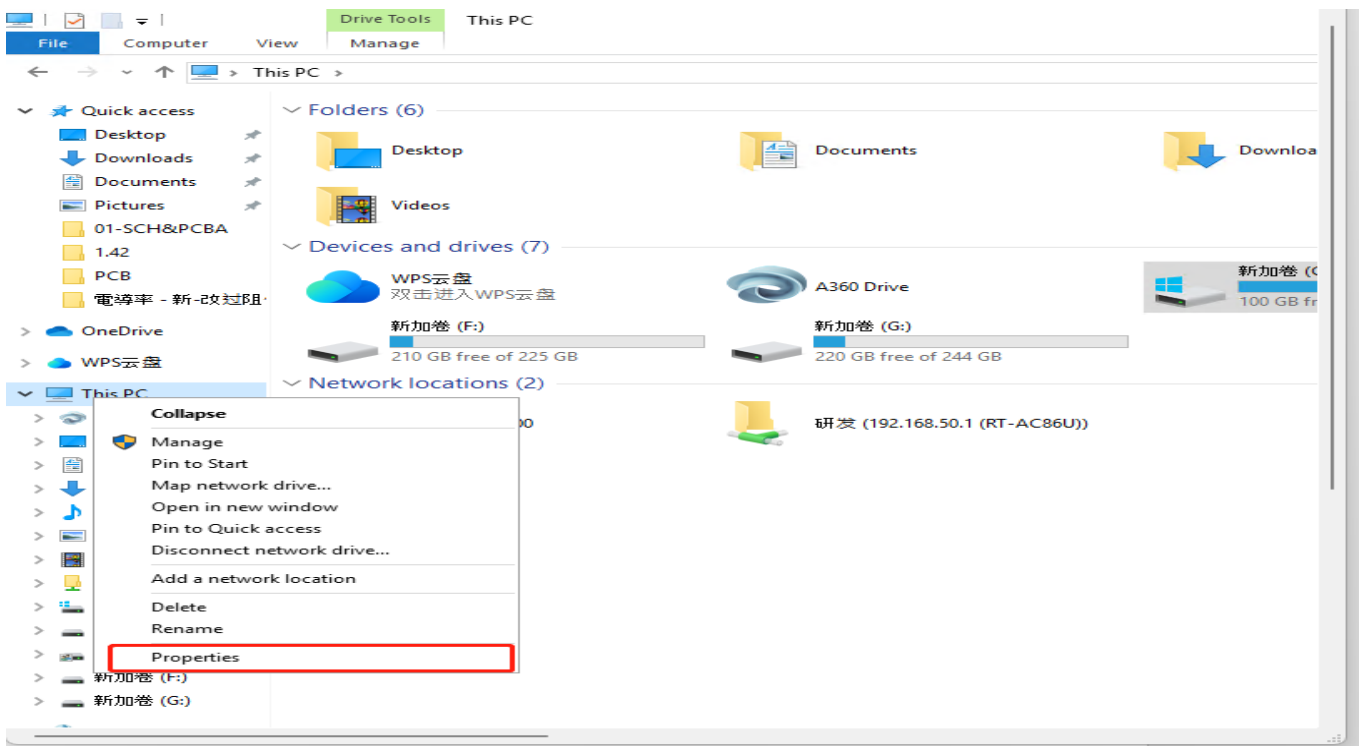


Take a note with the installation path, and Next.

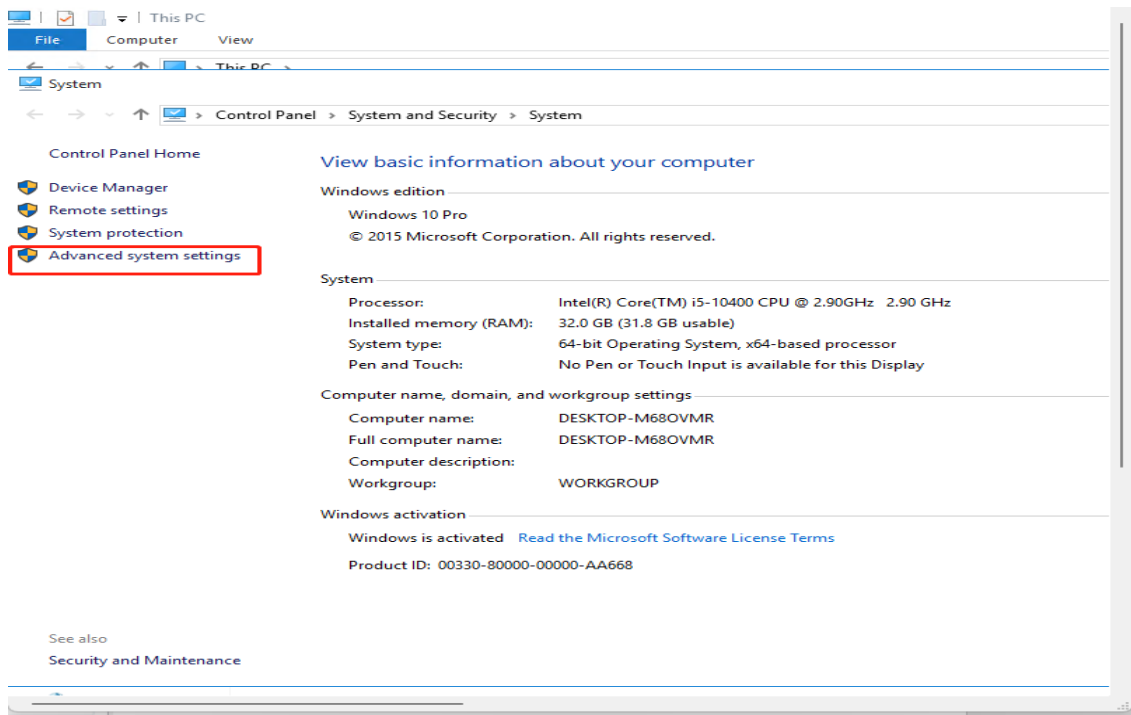


(3) Copy JDK Installation Path

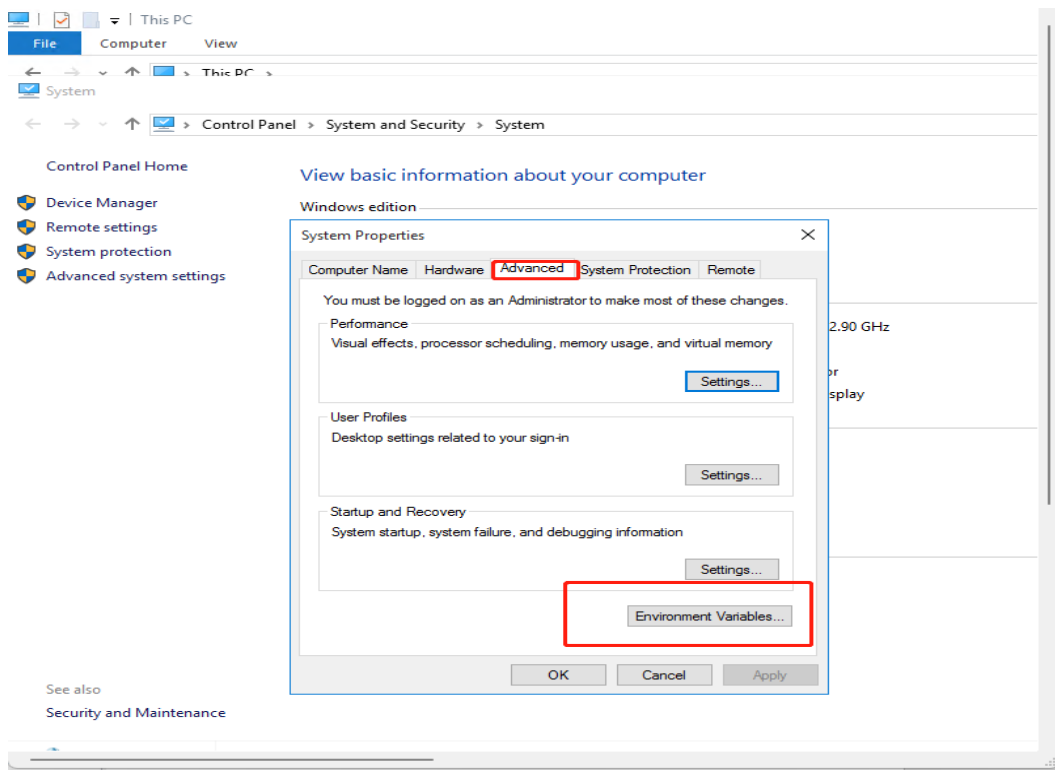
1. Open:
C:\Program Files\Java\jdk1.8.0_331
2. Copy the folder path from the address bar.
3. Right-click on "This PC" (or "My Computer") → Select "Properties".



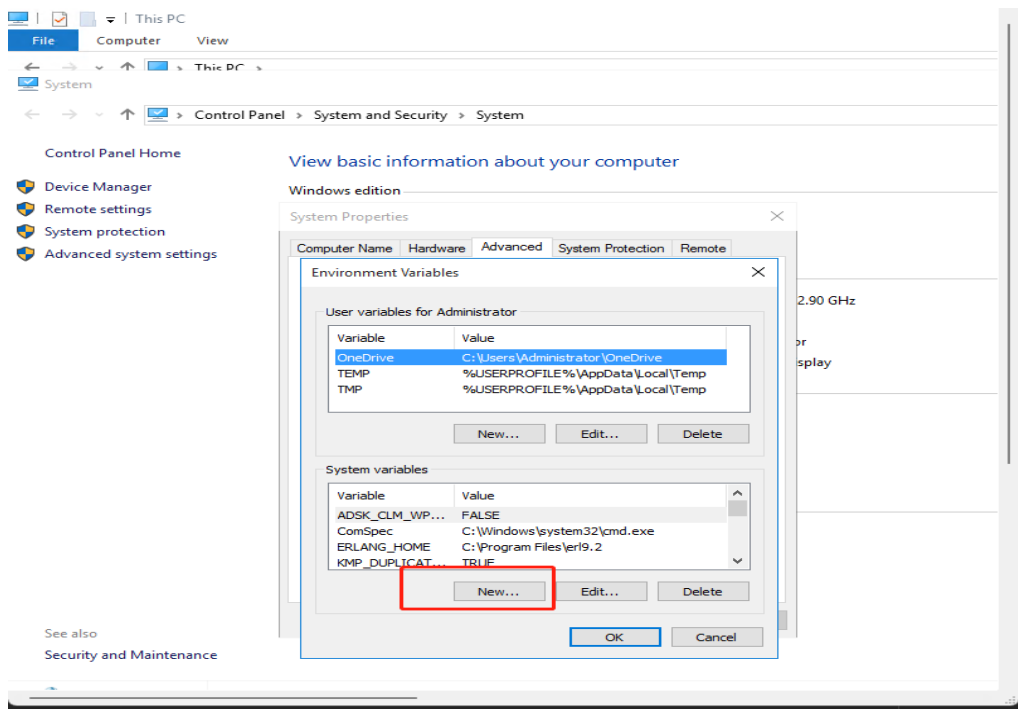
Click "Advance System Settings"



Click "Environment Variables" under Advanced settings



Create a new system variable

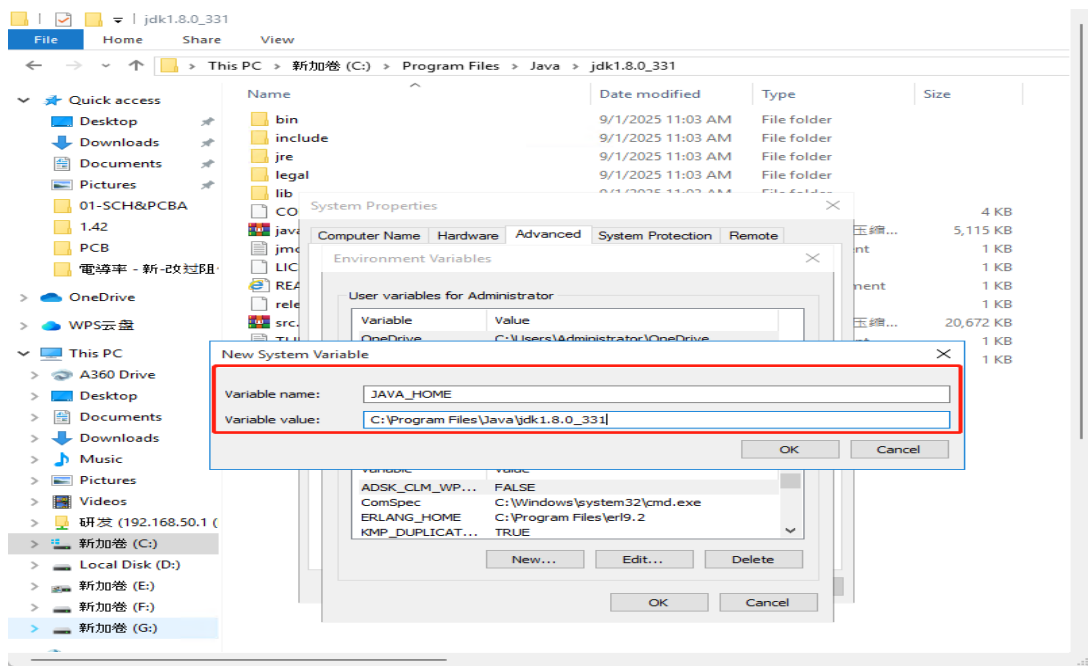


Variable name: Enter JAVA_HOME

Variable value: Paste the copied path:

C:\Program Files\Java\jdk1.8.0_331

Click OK to confirm.



Locate the Path variable under *System variables* → Click Edit

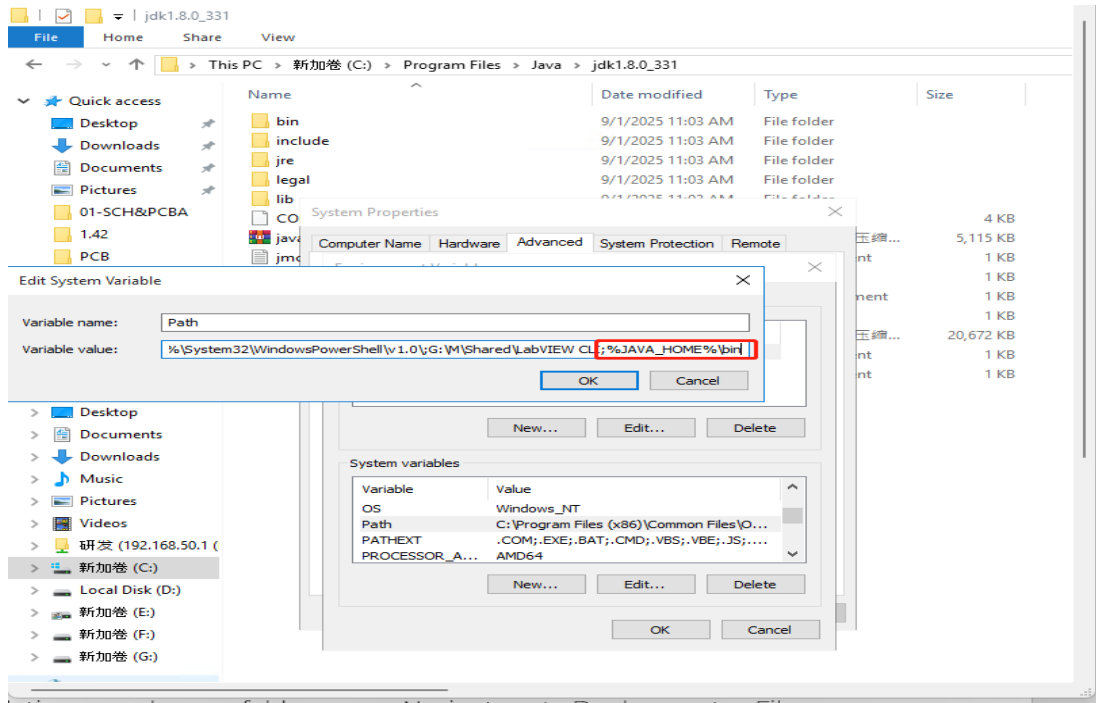
Append to the *Variable value*:

;%JAVA_HOME%\bin

Critical:

1. Prefix with a semicolon (;) to separate from existing entries
2. Ensure no spaces around the semicolon

Click OK to save (as shown in the reference image).



Click OK to save.

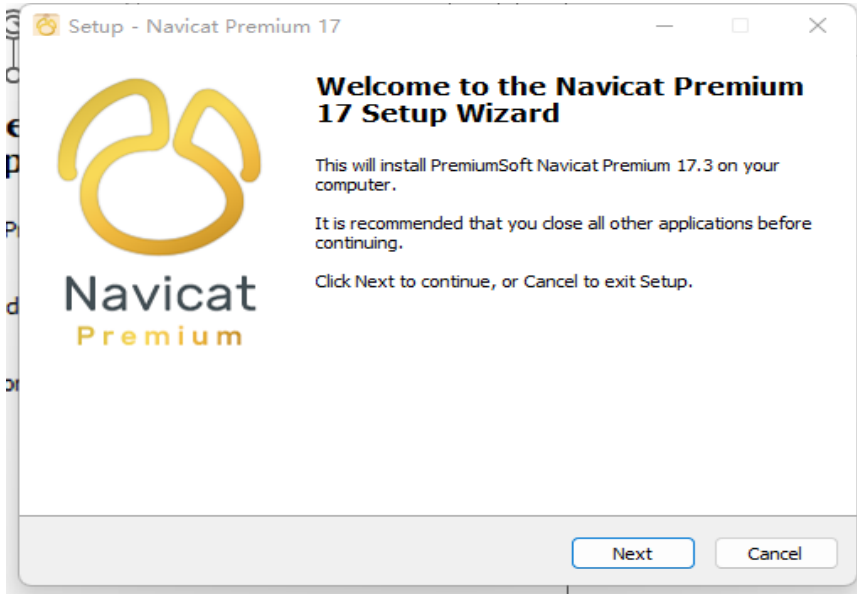
3. Install Navicat

Run the Navicat Installer

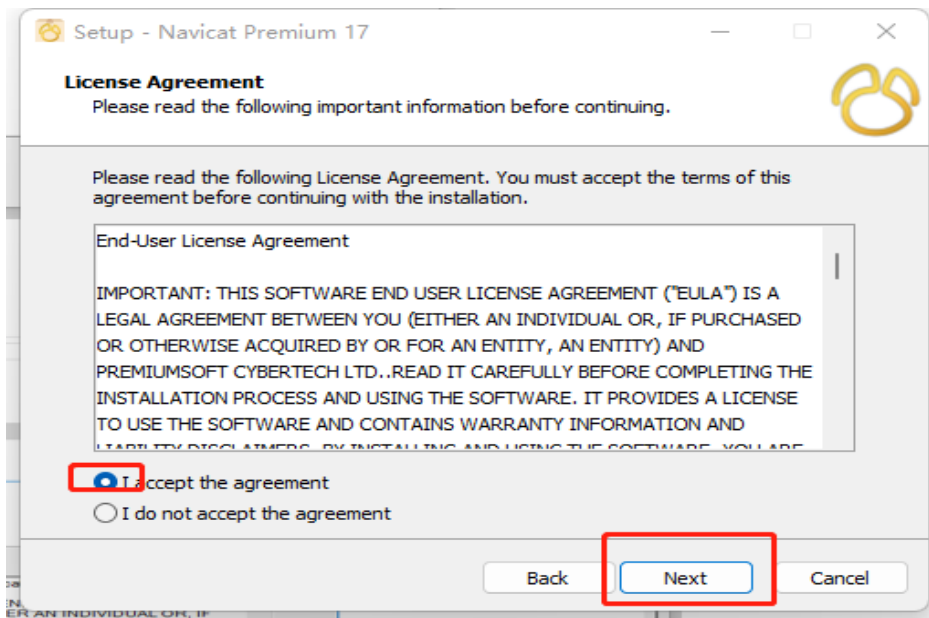
Open the installation package folder → Navigate to Deployment Files →

Run navicat17_premium_en_x64.exe.

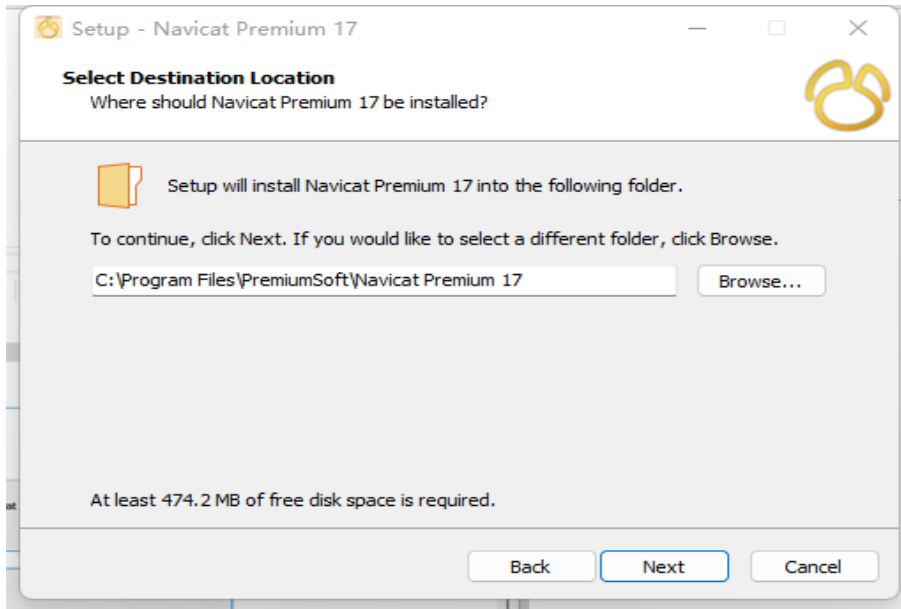
Click Next to begin the installation.



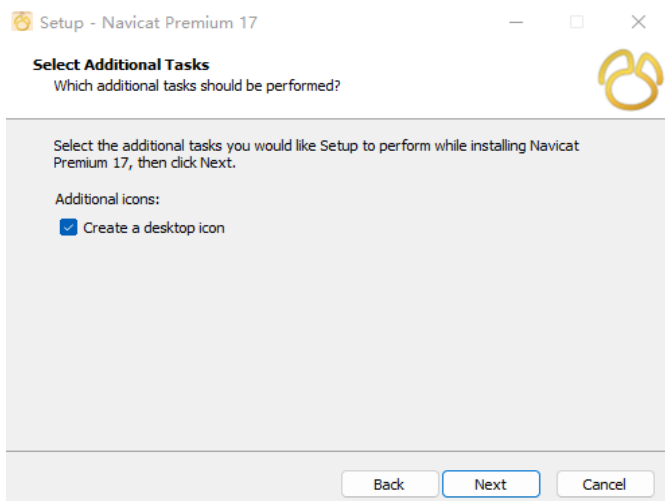
Click "I agree.", and "Next"



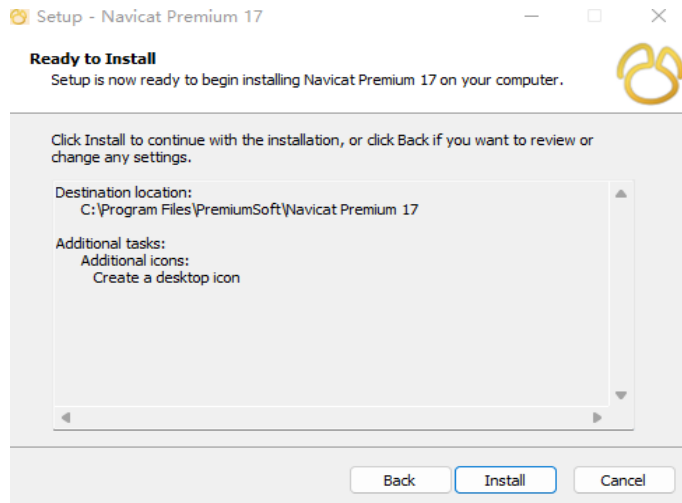
Click "Next"



Click "Next"



Click "Install" and finish the installation.



4. Initialize the database

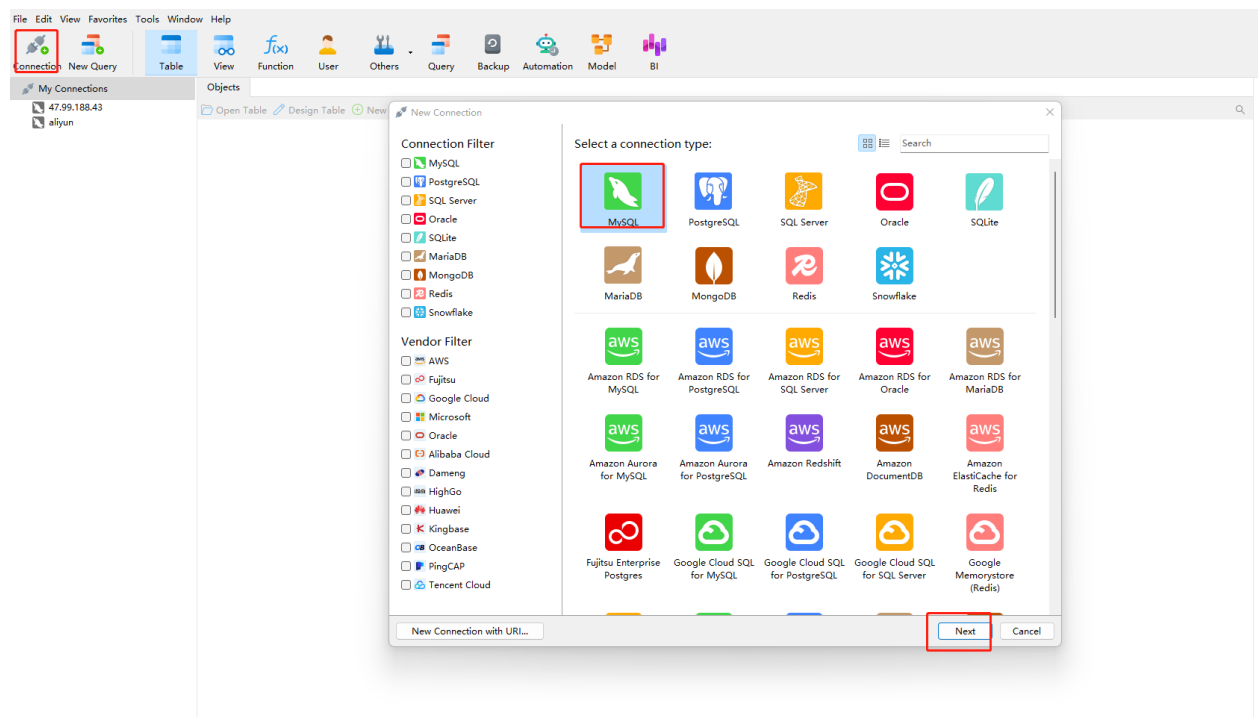
Installation & Configuration Steps for Navicat

(1) Launch Navicat & Enter Trial Mode

- Open Navicat → Click "Try" (Trial) to access the main interface.

(2) Create a MySQL Connection

- Click "Connection" → Select "MySQL" from the database options.



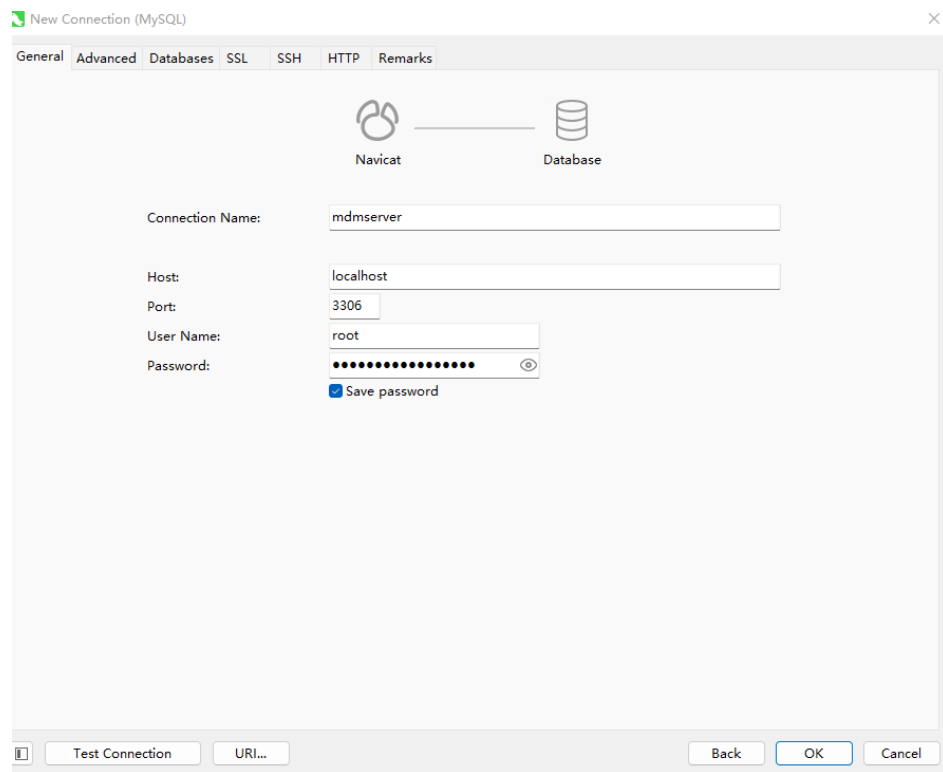
(3) Configure Connection Settings

- Fill in the connection details as shown in the figure (reference screenshot).
 - Password: mpd88998880
- Click "OK" to confirm and save the connection.

(4) Verify Connection & Create Database

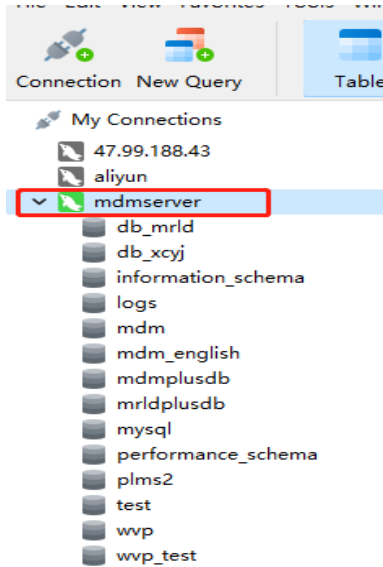
1. Verify Successful Connection:

- Double-click the connection named mdmserver.
 - If the icon changes from gray → green, the connection is active.



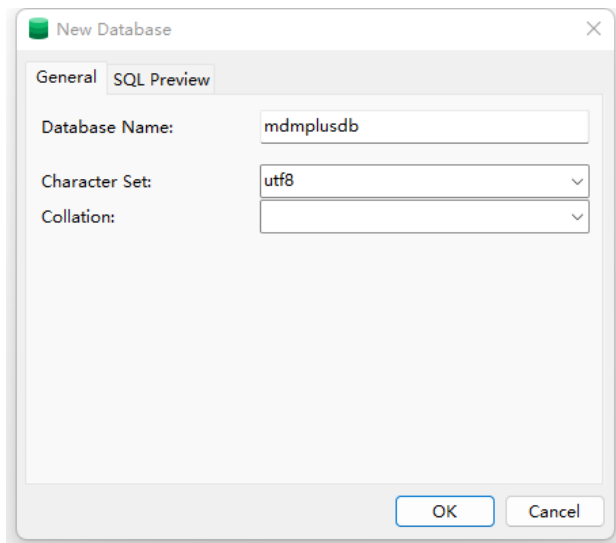
2. Create a New Database:

- Right-click mdmserver → Select "New Database".



(5) Configure Database Settings

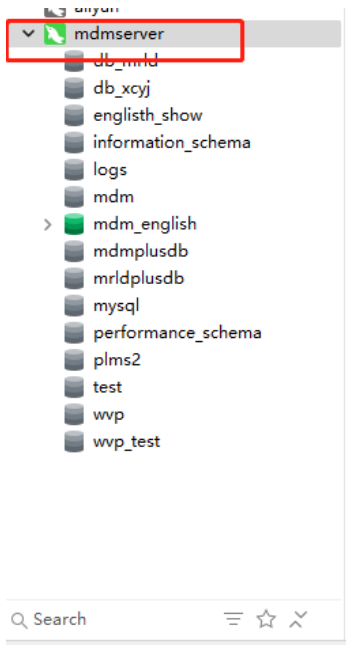
1. Fill in the details as shown in the reference image (e.g., database name, character set).
2. Click OK to confirm and create the database.



(6) Import SQL File into Database

1. Open the Target Database:

- Double-click the database mdmplusdb to activate it (icon should turn green).
2. Import SQL File:
- Drag and drop justtest.sql (from Deployment Files) into the mdmplusdb workspace.
 - Click Start to execute the SQL script (*as shown in the figure*).

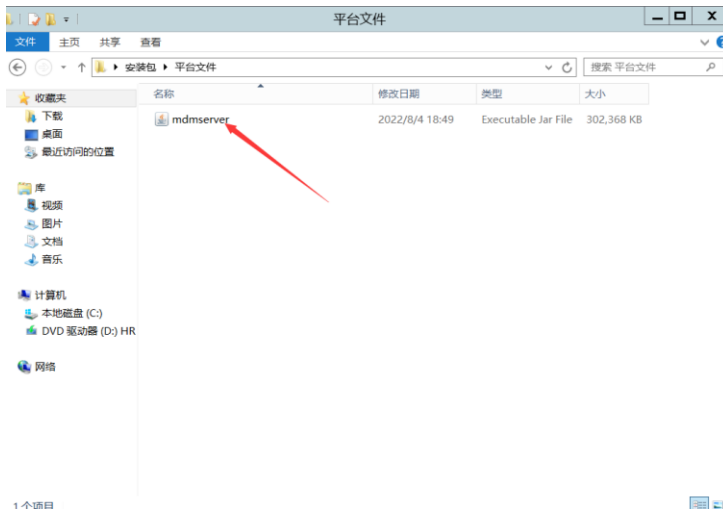


Click "Close" after the progress bar finishes

5. Run the Platform

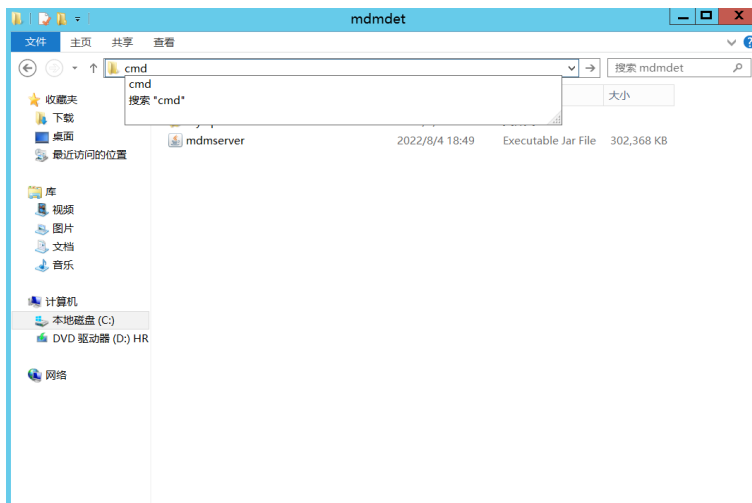
(1) Copy Platform Files

- Navigate to Installation Package → Platform Files.
- Copy navicat150_premium_cs_x64.exe to C:\mdmserver.



(2) Open Command Prompt

1. Navigate to C:\mdmserver in File Explorer.
2. Type cmd in the address bar → Press Enter to launch Command Prompt *in this directory*.



(3) Launch the Platform

1. Run the command:


```
cmd
java -jar mdmserver.jar
```

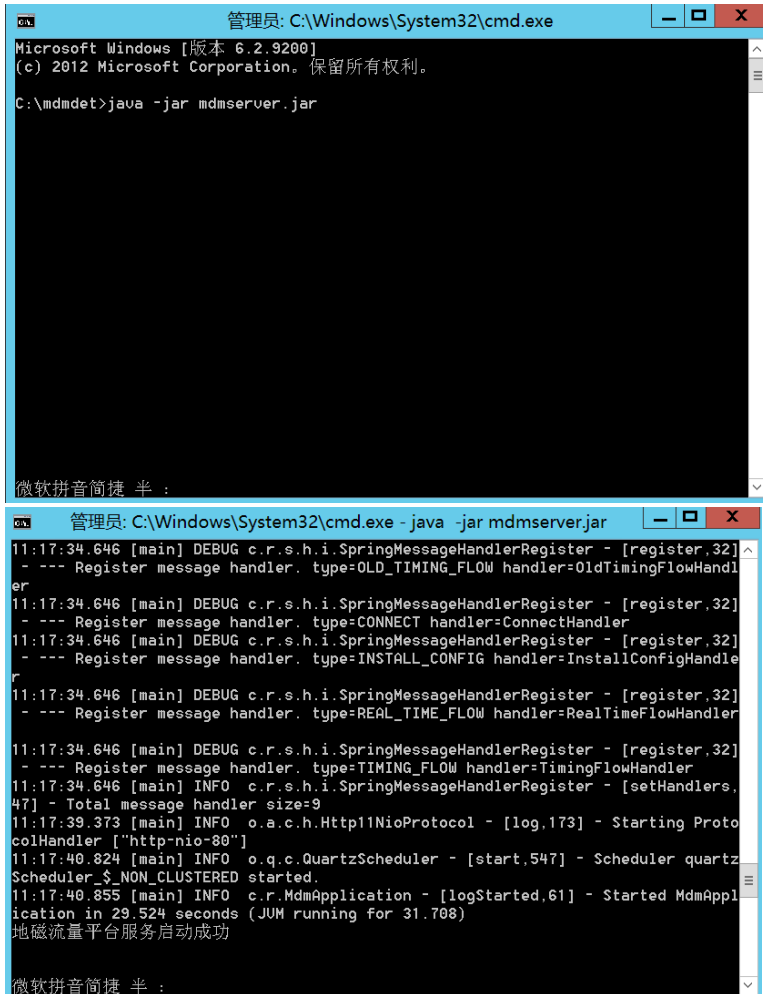
 - Critical: Ensure exact spacing (between java, -jar, and the filename).

2. Press Enter.

Successful Output:

plaintext

[INFO] Geomagnetic Traffic Platform started successfully.



The image shows two screenshots of a Windows command prompt window. The first screenshot shows the command `C:\mdmdet>java -jar mdmserver.jar` being entered. The second screenshot shows the output of the command, which includes several debug and info messages from the application, such as `Register message handler. type=OLD_TIMING_FLOW handler=OldTimingFlowHandler`, `Register message handler. type=CONNECT handler=ConnectHandler`, `Register message handler. type=INSTALL_CONFIG handler=InstallConfigHandler`, `Register message handler. type=REAL_TIME_FLOW handler=RealTimeFlowHandler`, `Register message handler. type=TIMING_FLOW handler=TimingFlowHandler`, `INFO c.r.s.h.i.SpringMessageHandlerRegister - [setHandlers, 47] - Total message handler size=9`, `INFO o.a.c.h.Http1NioProtocol - [log,173] - Starting ProtocolHandler ["http-nio-80"]`, `INFO o.q.c.QuartzScheduler - [start,547] - Scheduler quartzScheduler_$_NON_CLUSTERED started.`, and `INFO c.r.MdmApplication - [logStarted,61] - Started MdmApplication in 29.524 seconds (JVM running for 31.708)`. The final line of output is `地磁流量平台服务启动成功` (Geomagnetic Traffic Platform service started successfully).

6. Platform Access Instructions

(1). Prerequisite: Create Export Directory

- Create the folder:

text

D:\ruoyi\uploadPath

(Required for proper export functionality.)

(2). Access the Platform via Browser

- URL: <http://127.0.0.1:8090>
- Login Credentials:
 - Username: admin
 - Password: admin123

Chapter 2: Platform User Guide

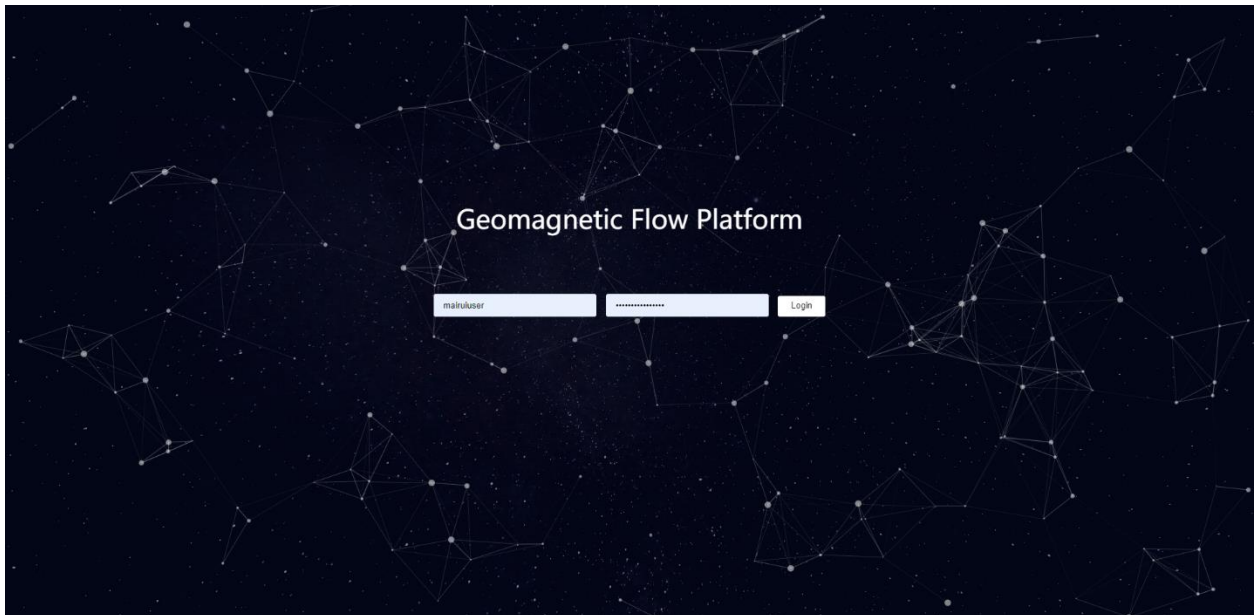
1. System Login Instructions

- Open a web browser (Chrome/Firefox/Edge).
- Enter the system URL in the address bar:

`http://121.89.194.212:8020/login`

- The login interface will appear (as shown in the figure).
- Enter your credentials:
 1. Username: [Your username]
 2. Password: [Your password]
- Click Login to access the system.

...



2. Platform Overview

The Geomagnetic Traffic Flow System enables remote monitoring, visualization, and analysis of geomagnetic traffic flow data.

Key Features

Homepage & Executive Dashboard

- GIS-based electronic display of intersections using longitude/latitude coordinates.
- Statistical analysis of intersection data, vehicle distribution, and traffic flow metrics.

Single Intersection Details

- Displays intersection specifics:
 - Intersection profiles
 - Device status
 - Lane channelization
 - Real-time lane occupancy

Geomagnetic Monitoring

- Real-time monitoring of geomagnetic device status.
- Query and export intersection device data.

Statistical Analysis

- Traffic flow metrics and trends.
- Visualization via charts/graphs.
- Advanced flow pattern analysis.

Basic Configuration

- Intersection setup (location, parameters).
- Lane channelization design.
- Detector management.
- Zone/region administration.

Log Management

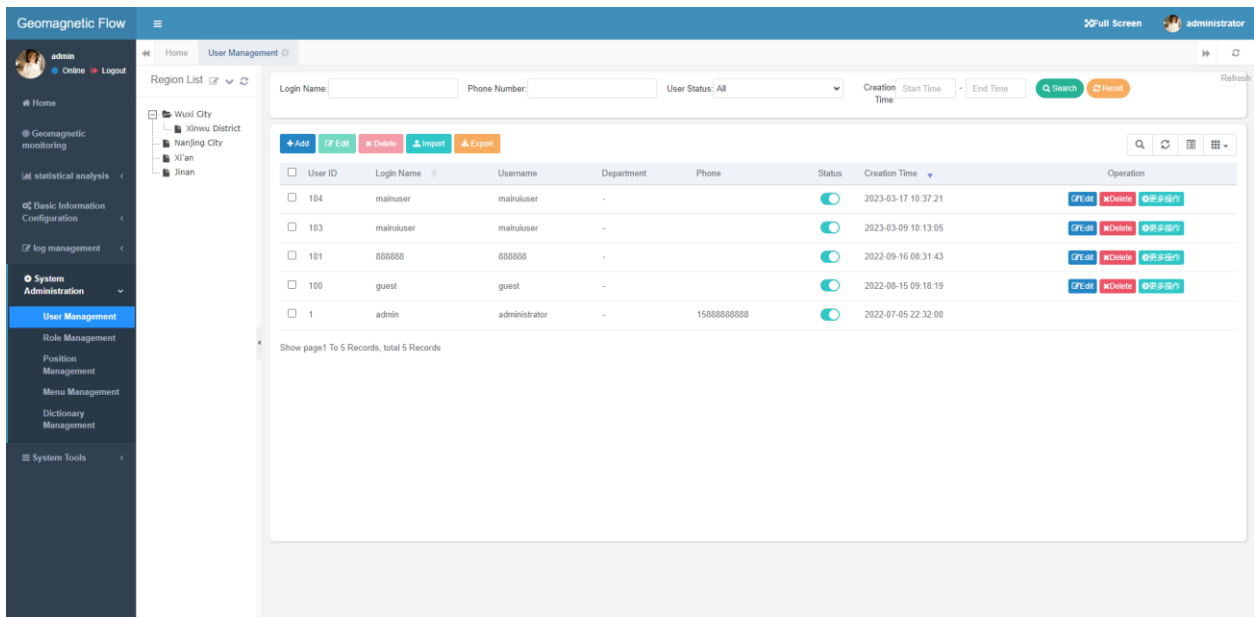
- Maintenance logs (device health, alerts).
- User operation audits.
- Login history tracking.

System Administration

- User/Role/Permission management.
- Menu customization.
- Position (job role) configuration.

3. User Management

This module is designed for comprehensive user administration.



Key operations include:

Search Functionality

- Locate specific users by entering search criteria in the search bar above the list.
- Click Search to execute the query.
- Click Reset to clear all search conditions.

Add New User

- Click the Add button above the list to open the *Add User* dialog.
- Enter required information and click Confirm to submit.

Modify User

1. Select the checkbox(es) of target user(s).
2. Click Edit to open the *Modify User* dialog.

3. Update information and click Confirm to save changes.

Delete Users

- *Single deletion:* Click the Delete button for a specific user → Confirm in the *Delete Confirmation* dialog.
- Batch deletion:
 1. Select multiple checkboxes
 2. Click the Delete button above the list
 3. Confirm in the *Delete Confirmation* dialog

Data Export

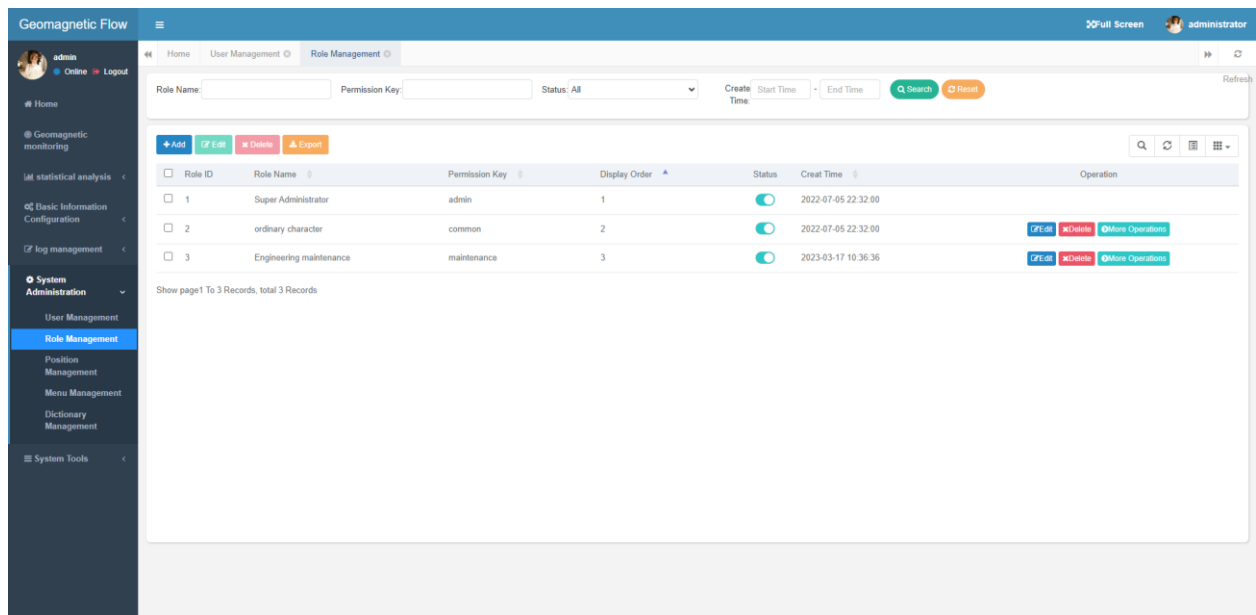
- Click the Export button above the list → Confirm in the *Export Confirmation* dialog.
- Exports all user data in the current view.

Data Import

- Click the Import button above the list → Open the *Import User Data* dialog.
- Select the target data file and confirm to import.

4. Role Management

This module handles system role configuration and administration.



Key functions include:

Accessing the Module

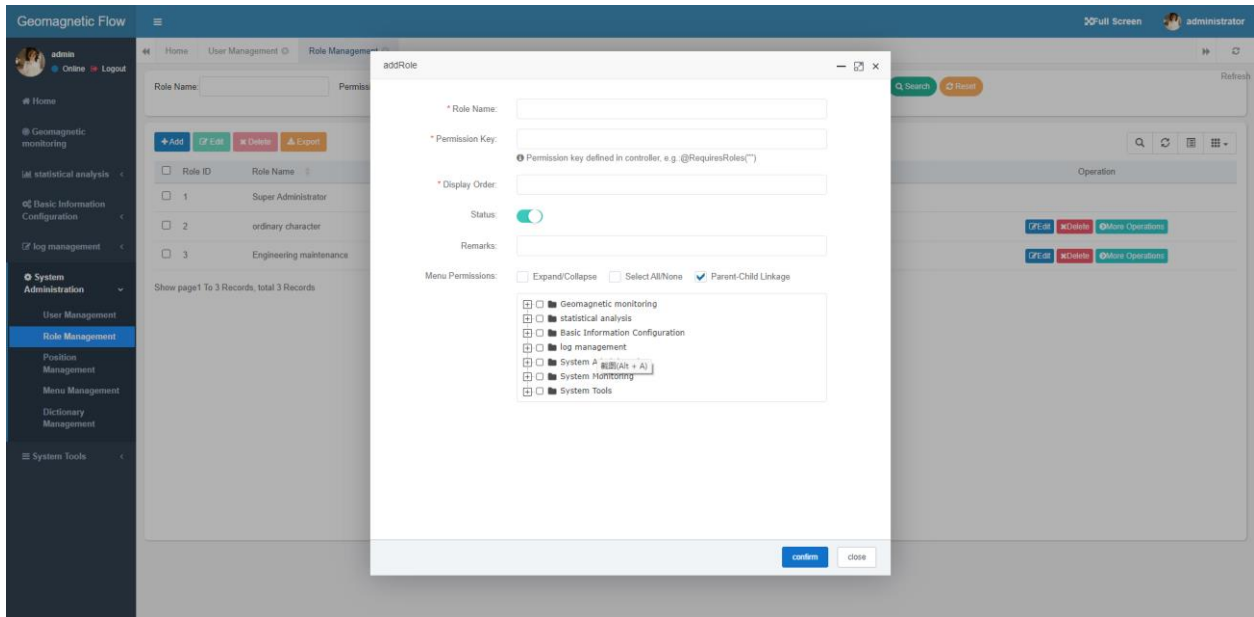
- Select Role Management from the menu to display the role list in the right panel.

Search Functionality

- Filter roles using these criteria:
 - Role name
 - Permission key
 - Status (Active/Inactive)
 - Creation date
- Click Search to apply filters
- Click Reset to clear all search conditions

Add New Role

1. Click the Add button above the list
2. Complete fields in the *Add Role* dialog:
 - Role name
 - Permission characters
 - Status toggle
 - Menu access permissions
3. Click Confirm to submit



Modify Role

1. Click the Edit button for the target role
2. Update information in the *Edit Role* dialog
3. Click Confirm to save changes

Delete Roles

- Single deletion:
 1. Click the Delete button for a specific role
 2. Confirm in the *Delete Confirmation* dialog
- Batch deletion:
 1. Select multiple role checkboxes
 2. Click the Delete button above the list
 3. Confirm in the *Delete Confirmation* dialog

Data Export

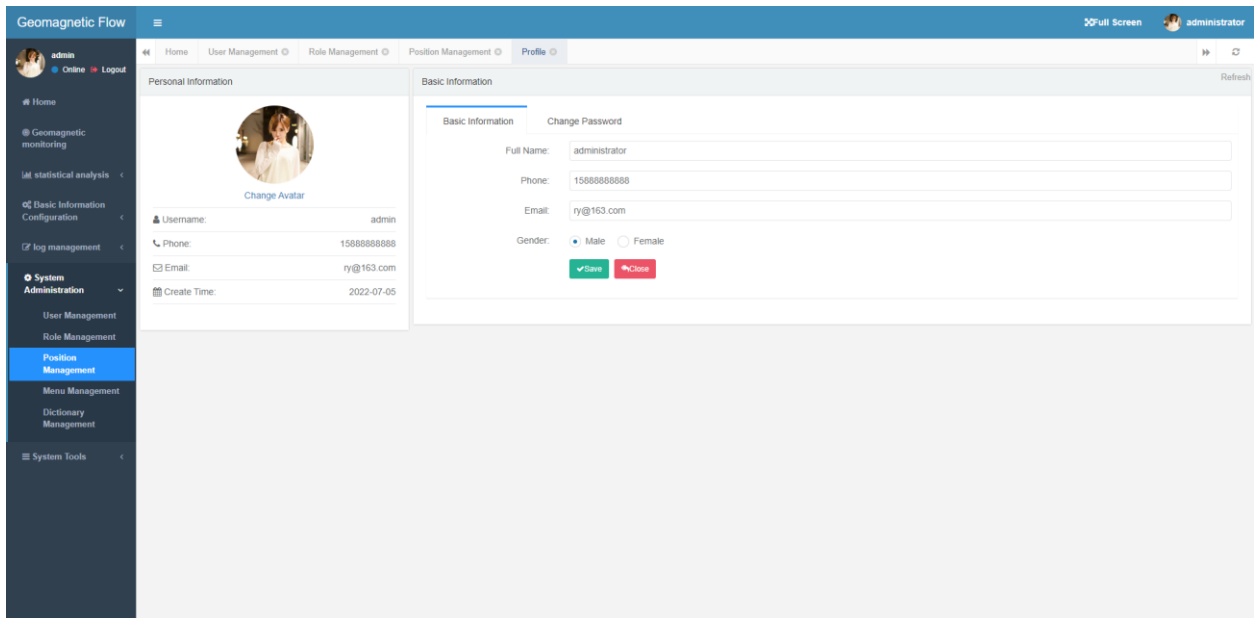
- Click the Export button above the list
- Confirm in the *Export Confirmation* dialog
- Exports complete role data in XLSX/CSV format

5. Personal Center

This module allows users to modify their account information and update login credentials.

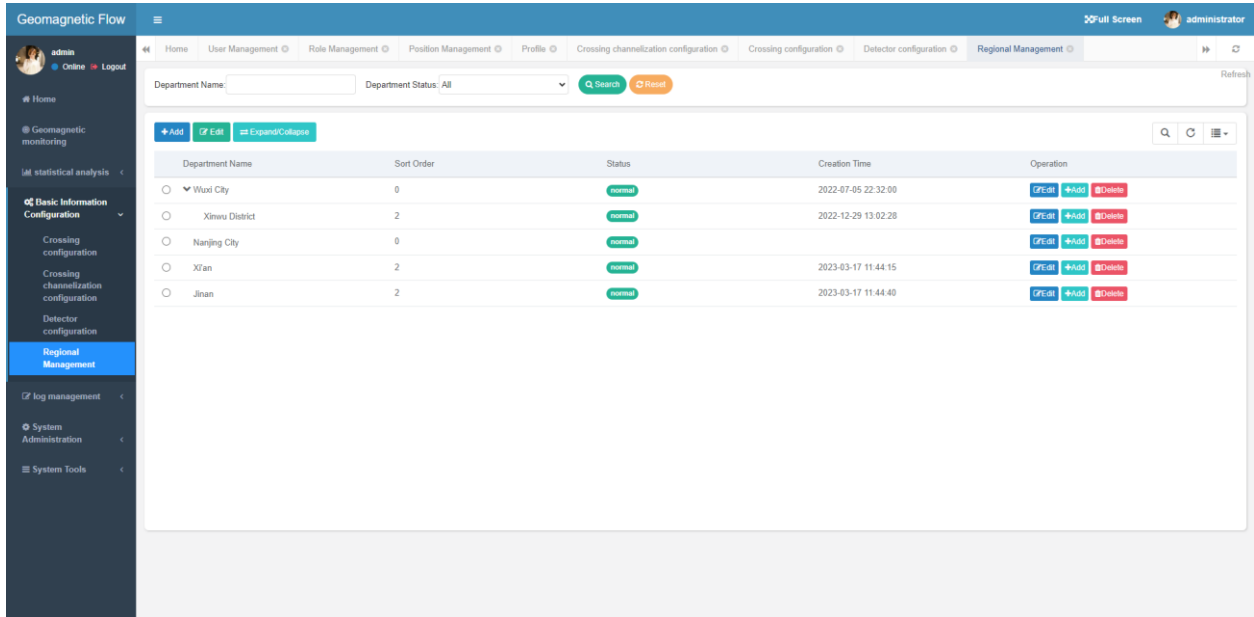
Accessing the Module

1. Click your profile icon in either:
 - The top-left corner (dashboard header)
 - The top-right corner (system menu)
2. Select "Personal Center" to view/update your details.



6. Region Management

This module manages regional information, including adding, editing, deleting, and exporting region data.



Key Functions

Accessing the Module

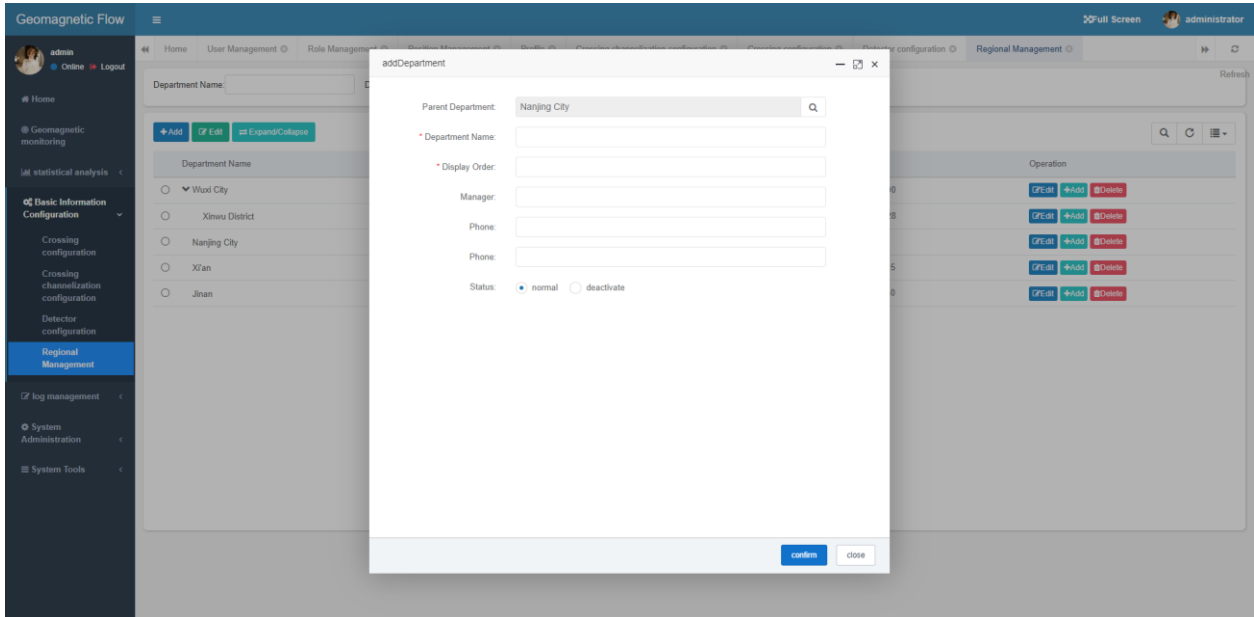
- Click "Region Management" in the menu → The region list displays on the right.

Search Functionality

- Filter regions by:
 - Region Name
 - Status (Active/Inactive)
- Click "Search" to apply filters.
- Click "Reset" to clear search conditions.

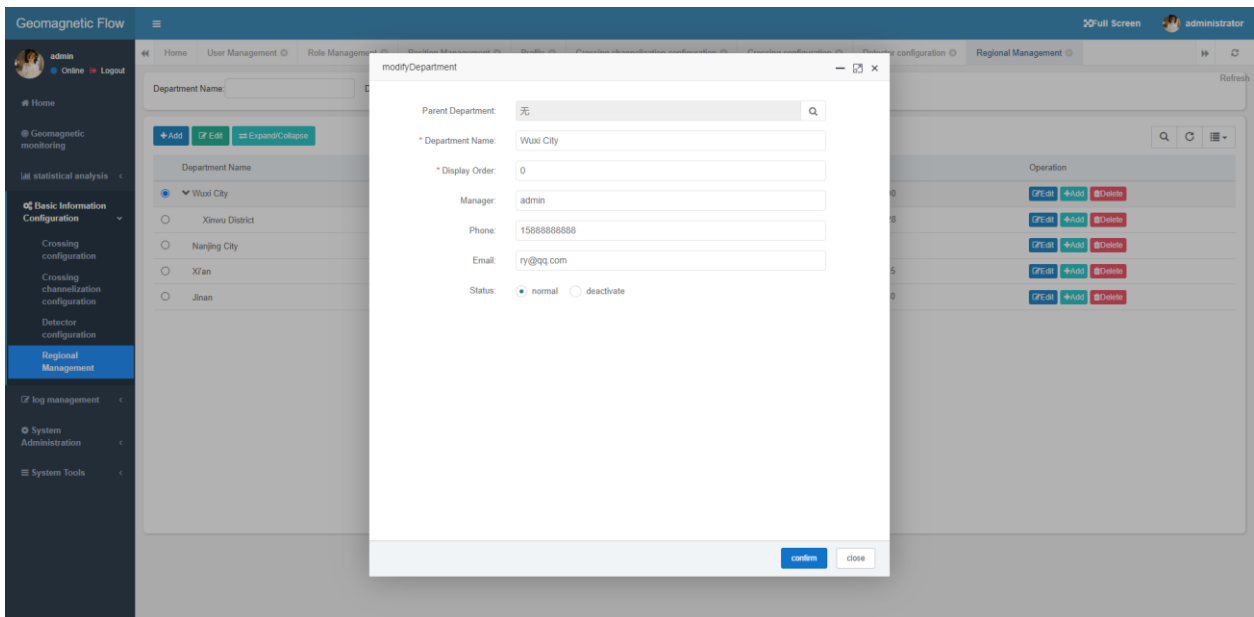
Add New Region

- Click "Add" above the list.
- Enter details in the *Add Region* dialog:
 - Region Name
 - Status (Enable/Disable)
 - Additional metadata (if applicable)
- Click "Confirm" to submit.



Modify Region

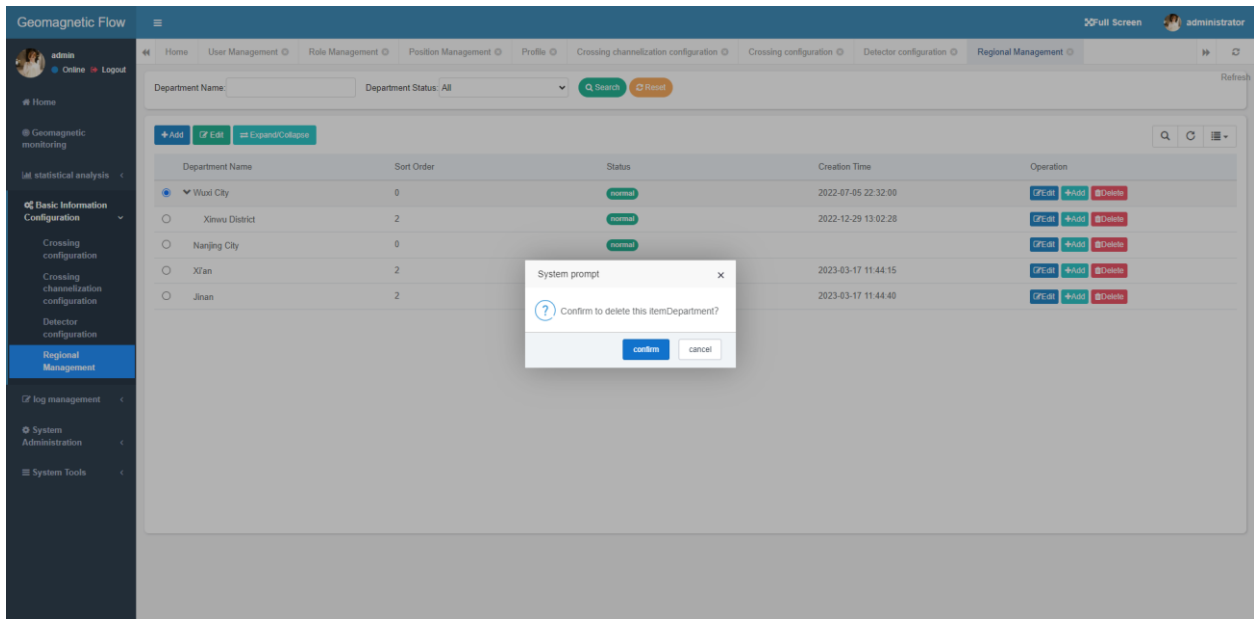
1. Click the "Edit" button for the target region.
2. Update information in the *Edit Region* dialog.
3. Click "Confirm" to save changes.



Delete Region(s)

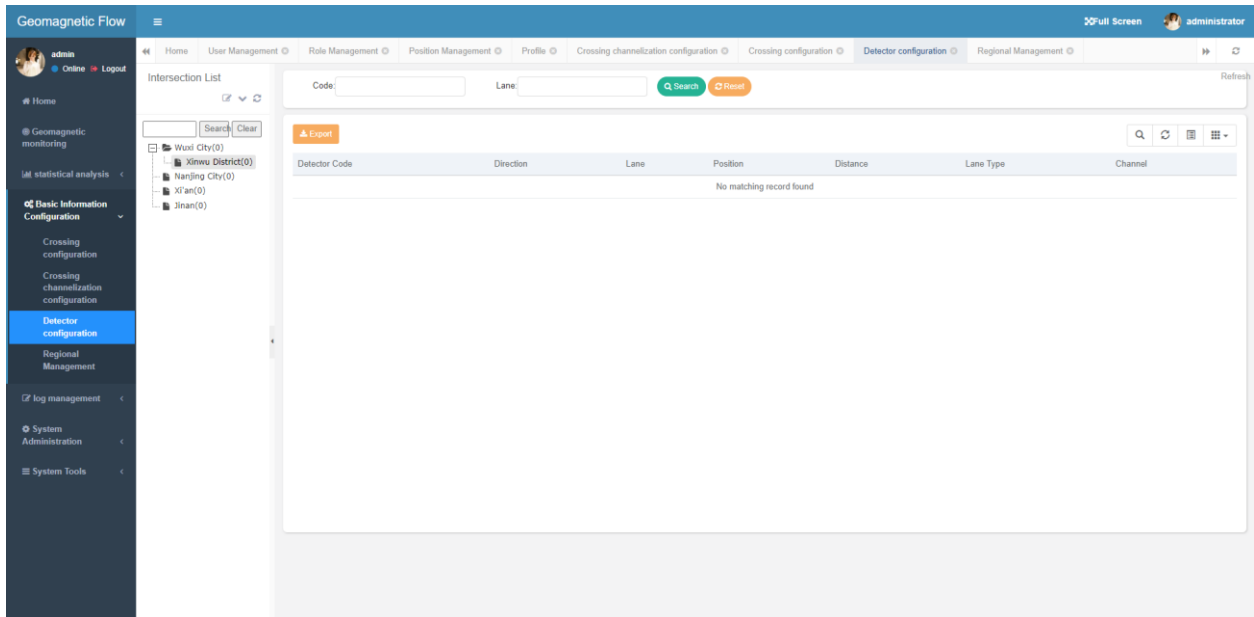
- Single Deletion:
 1. Click the "Delete" button for a specific region.

2. Confirm in the *Delete Confirmation* popup.
- Batch Deletion:
 1. Select multiple regions using checkboxes.
 2. Click the "Delete" button above the list.
 3. Confirm in the *Delete Confirmation* popup.



7. Detector Information Management

This module manages intersection detector data, including searching and exporting detector information.



Key Functions

Accessing the Module

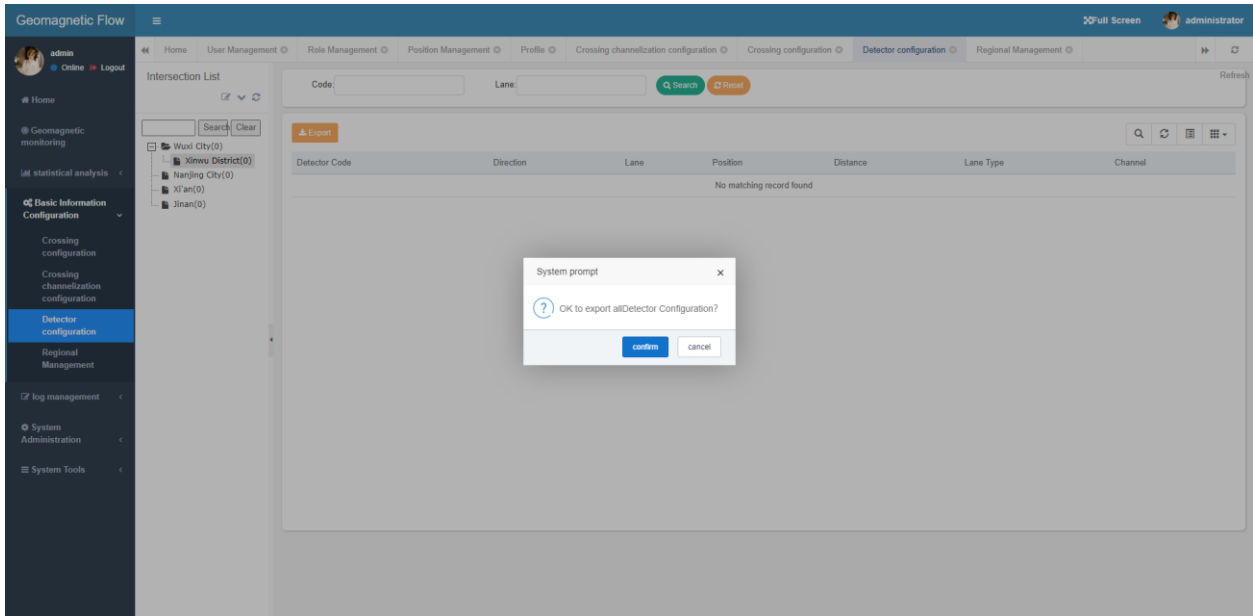
- Click "Intersection Detector Information" → A list of detectors displays on the right, showing:
 - Direction
 - Lane
 - Position
 - Spacing
 - Lane Type
 - Channel

Search Functionality

- Filter detectors by:
 - Detector Code
 - Lane Number
- Click "Search" to apply filters.
- Click "Reset" to clear search criteria.

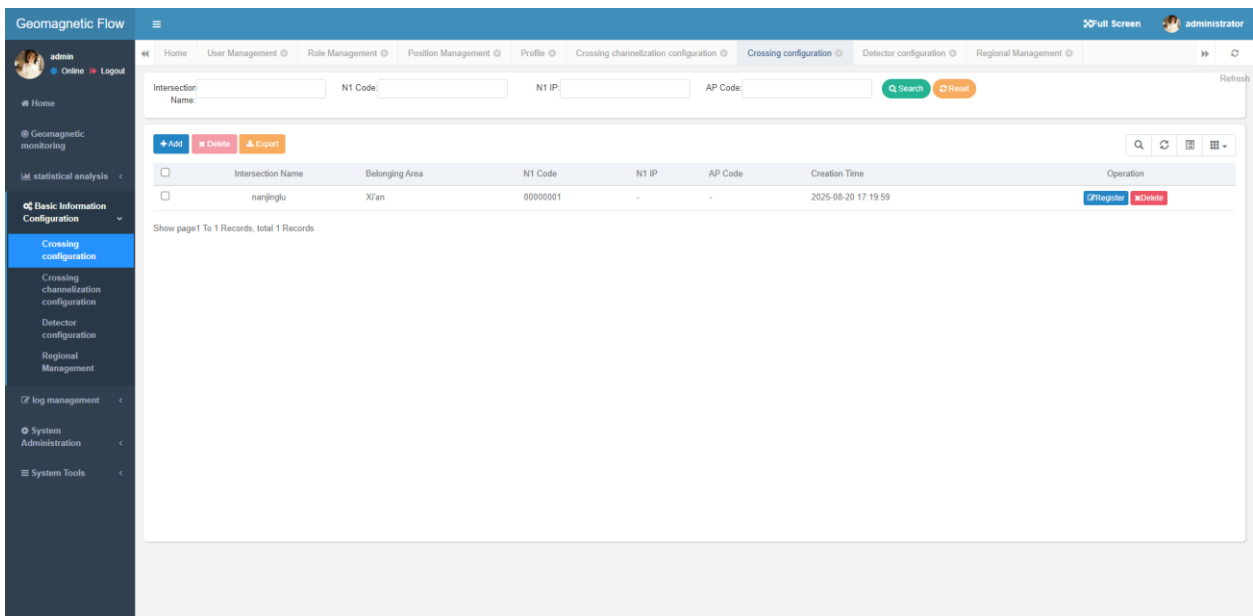
Export Data

- Click "Export" → Confirm in the *Export Confirmation* dialog to download all detector data (Excel/CSV).



8. Intersection Configuration Management

This module manages real-time intersection data, including adding, modifying, deleting, and exporting intersection configurations.



Key Functions

Accessing the Module

- Click "Intersection Configuration" → The intersection list displays on the right.

Search Functionality

- Filter intersections by:
 - Intersection Name
 - Data Processing Center Code
 - Data Processing Center IP
 - AP Code
- Click "Search" to apply filters.
- Click "Reset" to clear search conditions.

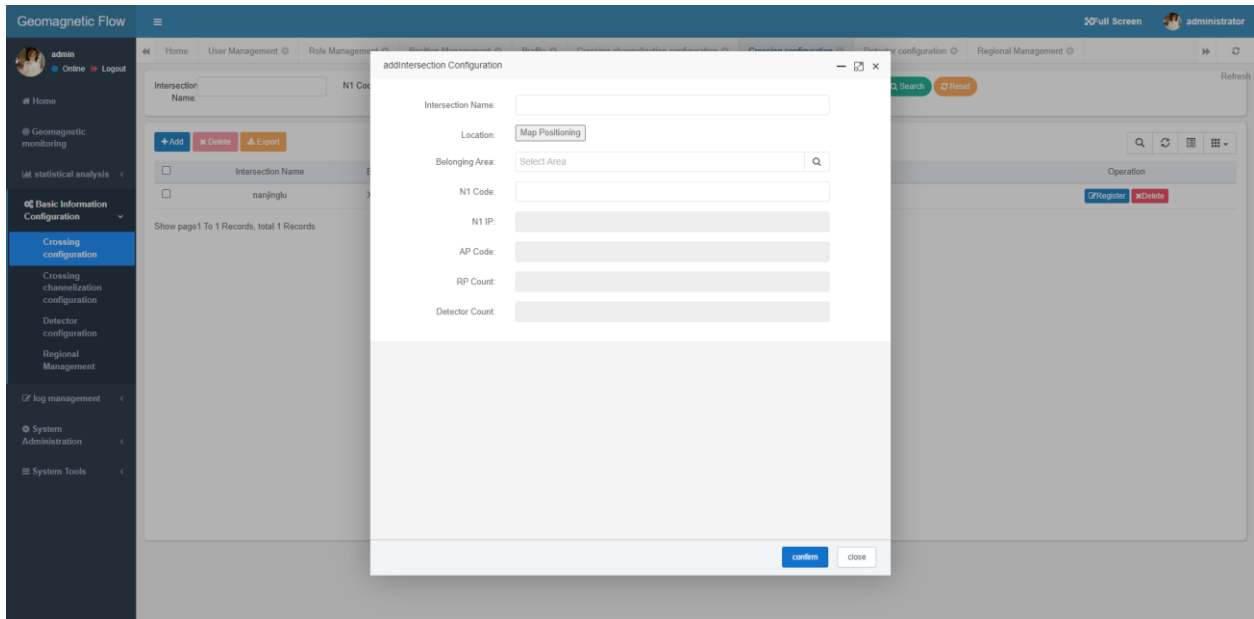
Add New Intersection

Method 1: Manual Configuration

1. Click "Add" above the list.
2. Enter details in the *Add Intersection* dialog:
 - Intersection Name
 - Pre-configured Data Processing Center Code (automatically recognized when devices connect)
 - Geolocation (required for map display)
3. Click "Confirm" to submit.

Method 2: Automatic Registration

- Configure intersection devices with the platform's data upload address → Devices auto-connect.

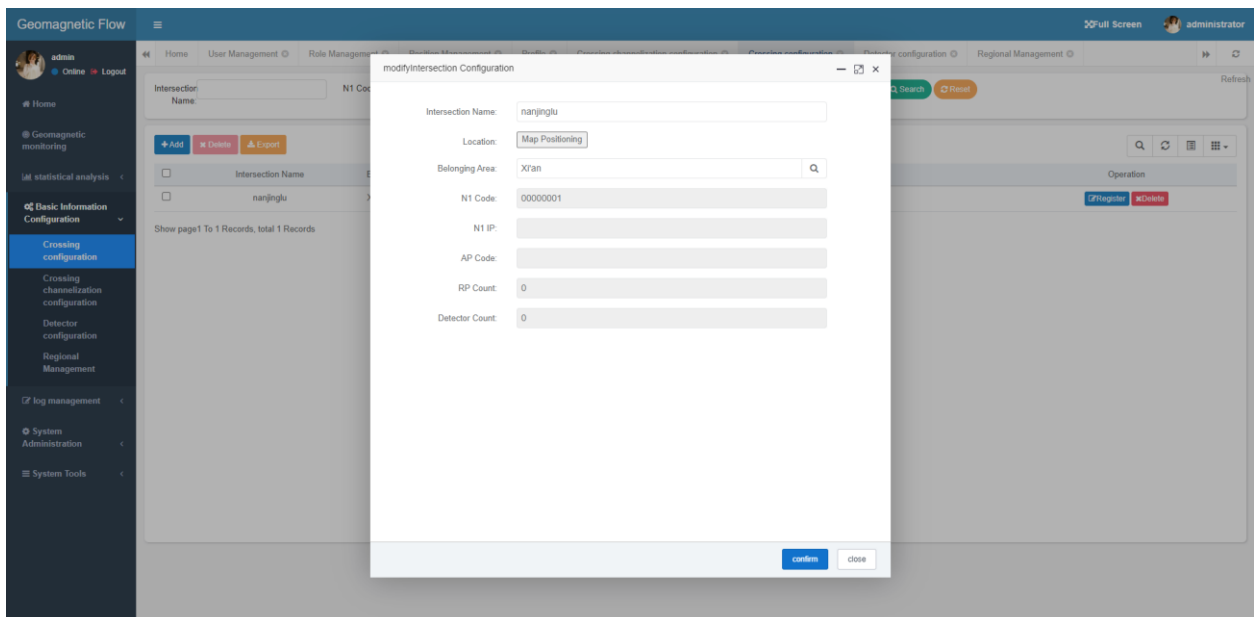


Geolocation Requirement

- Must complete geolocation fields (longitude/latitude) for the intersection to appear on the homepage map.

Modify Configuration

1. Click the "Edit" button for the target intersection.
2. Update information in the *Edit Intersection* dialog.
3. Click "Confirm" to save changes.



Delete Intersection(s)

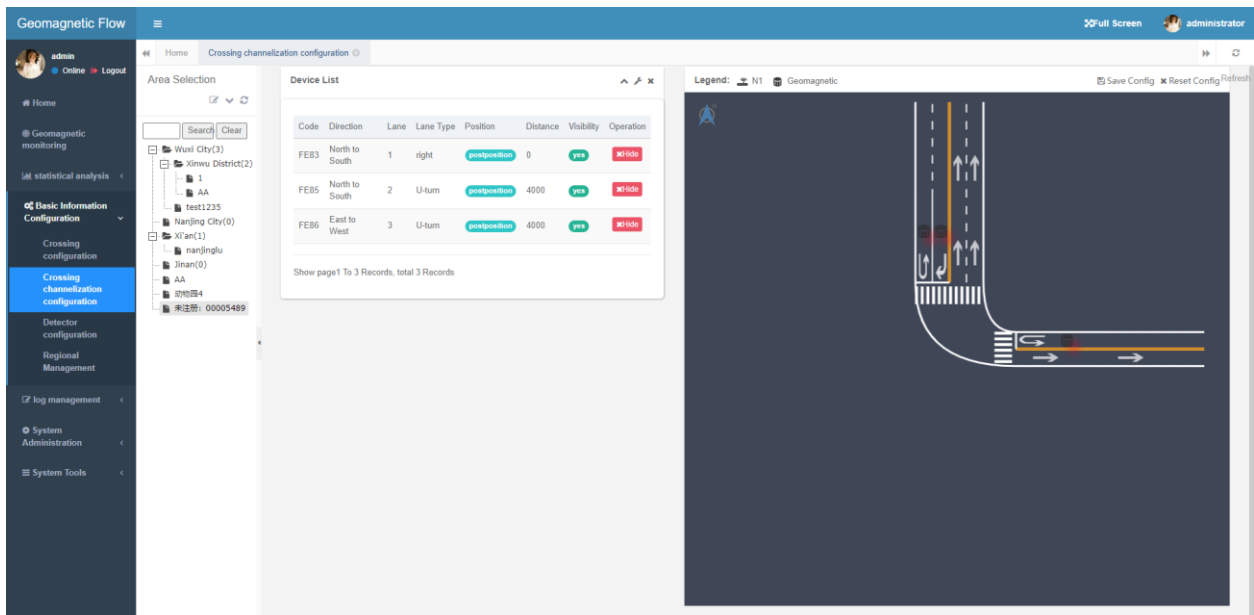
- Single Deletion:
 1. Click the "Delete" button for a specific intersection.
 2. Confirm in the *Delete Confirmation* popup.
- Batch Deletion:
 1. Select multiple intersections.
 2. Click the "Delete" button above the list.
 3. Confirm in the *Delete Confirmation* popup.

Export Data

- Click "Export" → Confirm to download all intersection data (Excel/CSV).

9. Intersection Channelization Configuration

This module manages the display/hide settings for intersection geomagnetic detectors and Data Processing Center devices.



Key Functions

Accessing the Module

- Click "Intersection Channelization Configuration" → The Marker Management

List displays on the right.

Display Devices

- Locate the target intersection by its intersection code.
- Click "Show" in the Action column to:
 - Display geomagnetic detector configurations
 - Reveal Data Processing Center device settings

Hide Devices

1. Click "Hide" for the target intersection code.
2. A System Hide Confirmation dialog will appear.
3. Click "Confirm" to:
 - Hide geomagnetic detector data
 - Conceal Data Processing Center device configurations

10. Traffic Flow Information Management

This module manages intersection traffic data, including searching, deleting, and exporting flow statistics.

The screenshot displays the 'Traffic Flow Information Management' interface. On the left is a sidebar with navigation links: Home, Geomagnetic monitoring, Traffic information (selected), Chart Analysis, Statistical analysis of flow, Basic Information Configuration, Log management, System Administration, and System Tools. The main content area has a header with 'Geomagnetic Flow' and user information. Below the header, there's a search bar and filters for Date (2025-08-20), Time (16:30:00 to 17:30:00), and Direction (All). A table titled 'Intersection List' shows traffic data. The table has columns: Time, Direction, Lane, Average Speed, Traffic Flow, and Time Occupancy(%). The data rows show various intersections and their corresponding traffic metrics. At the bottom, a pagination bar indicates 'Show page 1 To 10 Records, total 192 Records'.

Time	Direction	Lane	Average Speed	Traffic Flow	Time Occupancy(%)
2023-08-09 09:48:00	East to West	3	0	6	49
2023-08-09 09:48:00	North to South	2	0	6	49
2023-08-09 09:48:00	North to South	1	0	6	49
2023-08-09 09:47:00	East to West	3	0	6	49
2023-08-09 09:47:00	North to South	2	0	6	49
2023-08-09 09:47:00	North to South	1	0	6	49
2023-08-09 09:46:00	East to West	3	0	6	49
2023-08-09 09:46:00	North to South	2	0	6	49
2023-08-09 09:46:00	North to South	1	0	6	49
2023-08-09 09:45:00	East to West	3	0	6	57

Key Functions

Accessing the Module

- Click "Traffic Flow Information" → The traffic data list displays on the right.

Search Functionality

- Filter records by:
 - Intersection ID
- Click "Search" to apply filters.
- Click "Reset" to clear search criteria.

Delete Data

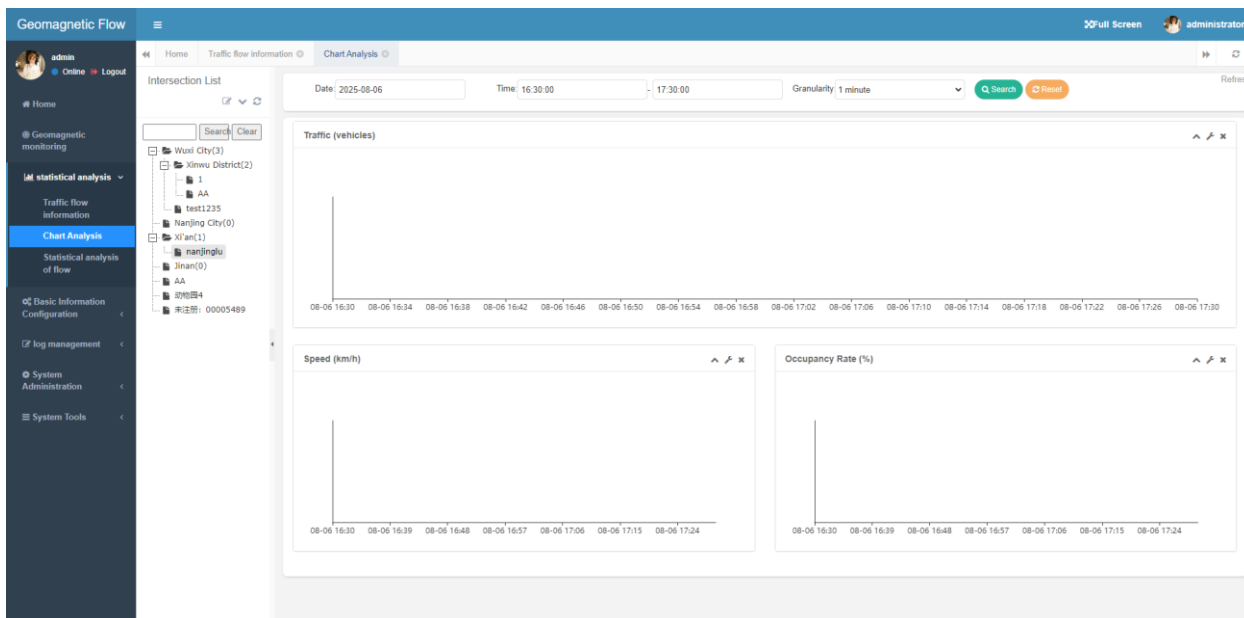
- Single Deletion:
 1. Click the "Delete" button for a specific record.
 2. Confirm in the *Delete Confirmation* dialog.
- Batch Deletion:
 1. Select multiple records.
 2. Click the "Delete" button above the list.
 3. Confirm in the *Delete Confirmation* dialog.

Export Data

- Click "Export" → Confirm to download all traffic flow records (Excel/CSV format).

11. Chart Information Management

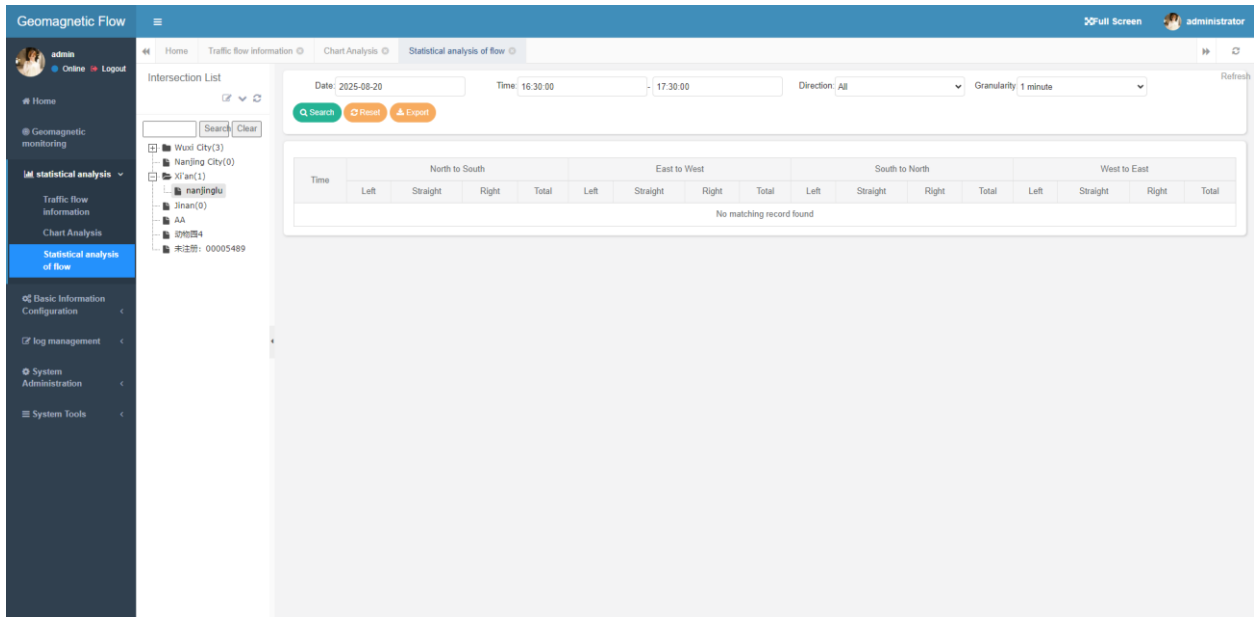
This module displays charts for intersection geomagnetic management data (flow, speed, and occupancy rates), including search and reset functions for intersection information. As shown in the figure:



1. Click "Chart Analysis" → The intersection list will display on the right.
2. Search:
 - Filter by: Date, Time, and Granularity
 - Click "Search" to apply filters
 - Click "Reset" to clear search conditions

12. Traffic Flow Statistical Analysis

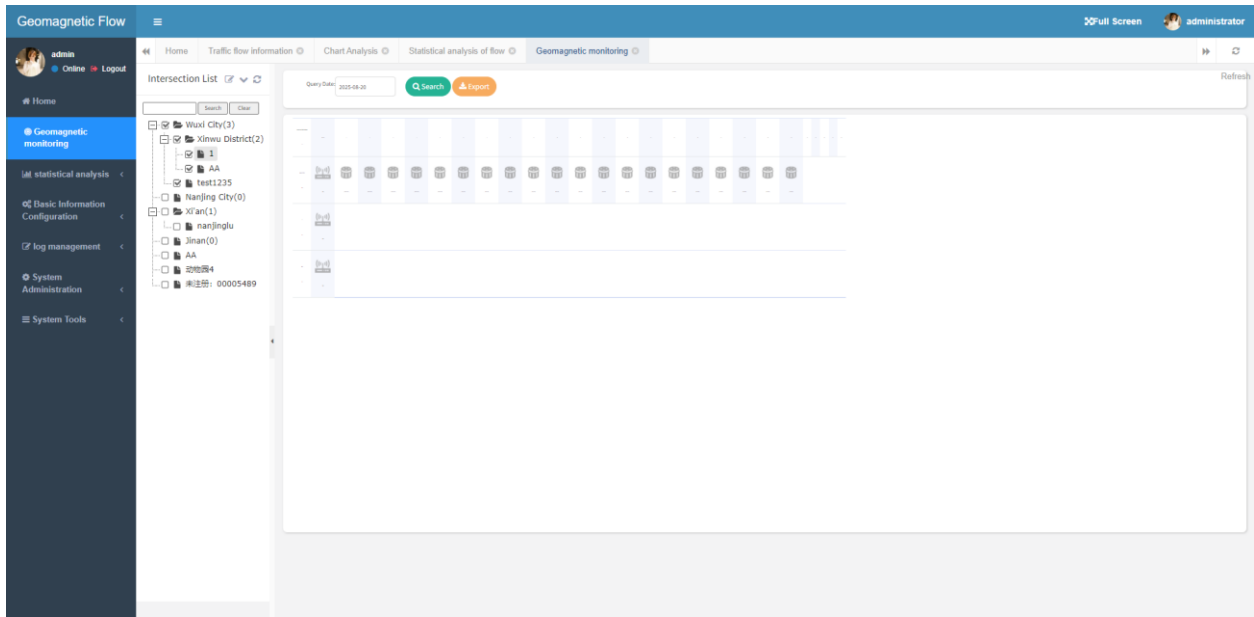
This module is responsible for the statistics and management of intersection traffic flow information, including searching and exporting intersection traffic data. As shown in the figure:



1. Click "Traffic Flow Statistical Analysis" → The intersection list will display on the right.
2. Search:
 - Filter by: Date, Time, Direction, and Granularity
 - Click "Search" to apply filters
 - Click "Reset" to clear search conditions
3. Add:
 - Click the "Add" button above the gas detection configuration list
 - The Add Gas Detection Configuration page will pop up
 - Enter the gas detection configuration to be added
 - Click "Confirm" to submit the data
4. Export:
 - Click the "Export" button → The *Export Confirmation* page will pop up
 - Click "Confirm" to export all statistical traffic flow data

13. Geomagnetic Monitoring

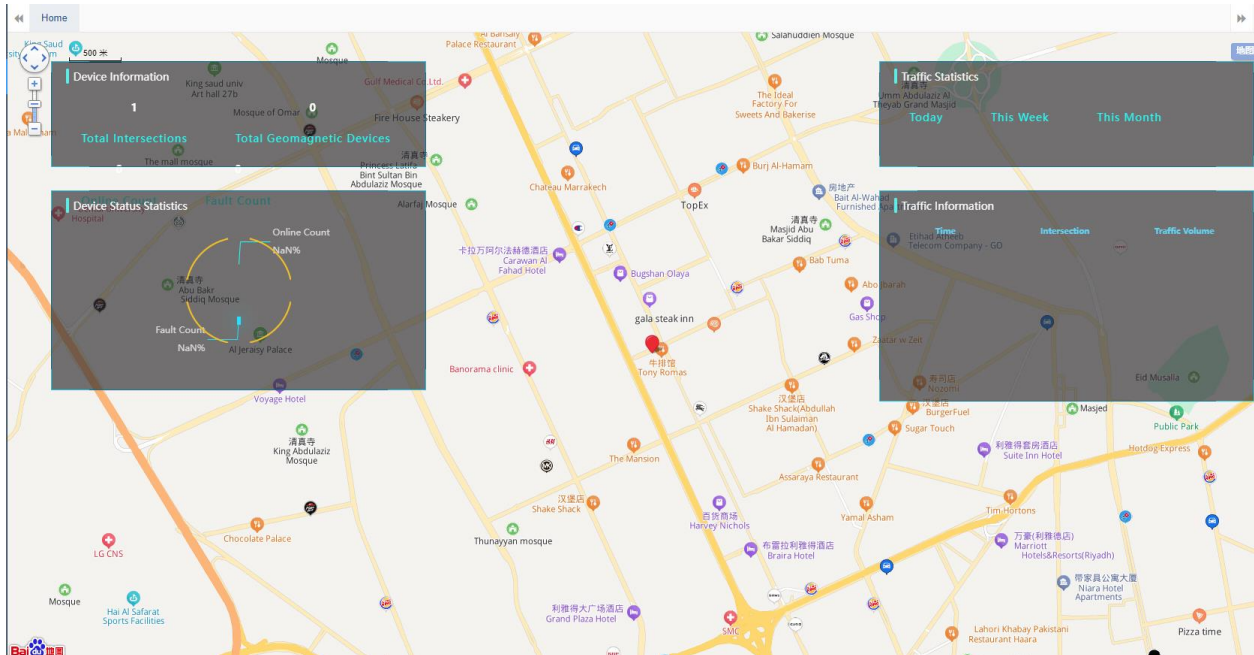
This module monitors the status of intersection geomagnetic devices, including searching and exporting device data. As shown in the figure:



1. Click "Geomagnetic Monitoring" → The intersection list will display on the right.
2. Search:
 - Filter by: Query Date
 - Click "Search" to apply filters
 - Click "Reset" to clear search conditions
3. Export:
 - Click the "Export" button → The *Export Confirmation* page will pop up
 - Click "Confirm" to export all geomagnetic monitoring data

14. Homepage & Executive Dashboard

This module provides visualized intersection monitoring via GIS mapping, with summarized geomagnetic data analytics.



Key features:

1. Single Intersection Details

- Click any intersection coordinate on the map → A pop-up displays:
 - Real-time traffic metrics
 - Device status
 - Historical flow trends

2. Device Summary

- Geomagnetic Devices:
 - Total intersections monitored
 - Total devices deployed
 - Online devices (count)
 - Faulty devices (count)

3. Device Status Overview

- Online Devices: [Number]
- Faulty Devices: [Number]

4. Traffic Statistics

- Today's Flow: [Volume]

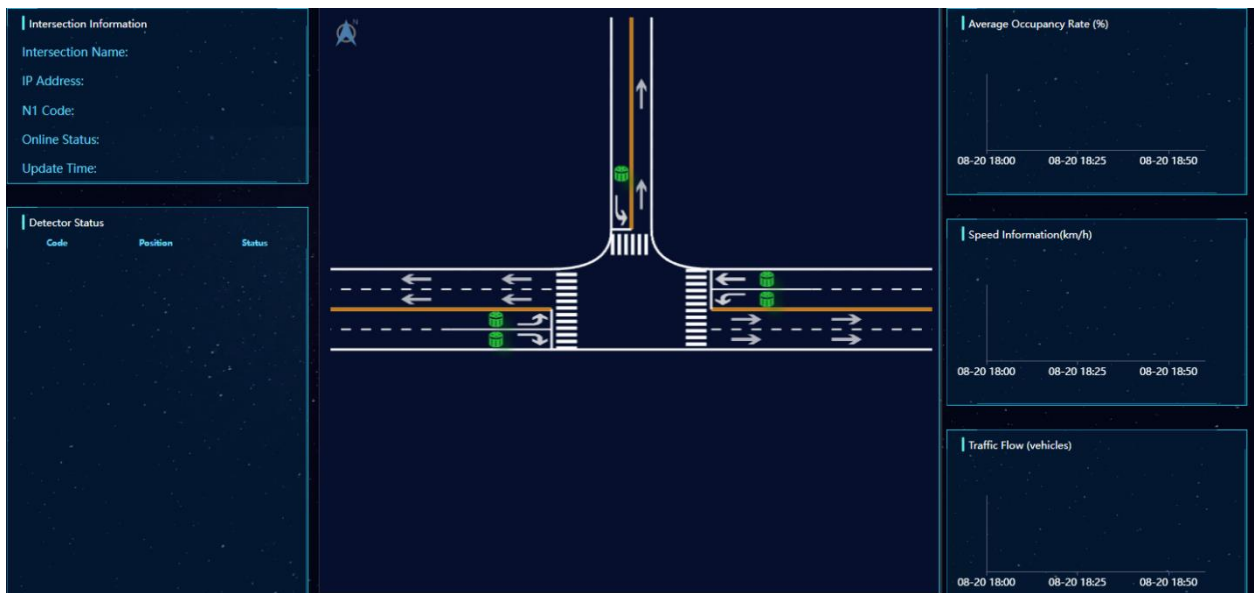
- Weekly Flow: [Trend chart]
- Monthly Flow: [Comparative analysis]

5. Flow Data Details

- Time-Stamped Records:
 - Intersection name
 - Traffic volume (per 5/15/60-min granularity)

15. Single Intersection Details

This module displays detailed information for individual intersections. As shown in the figure:



1. Intersection Information

- Includes:
 - Intersection name
 - IP address
 - Data Processing Center code
 - Online status
 - Update time

2. Detector Status

- Includes:
 - Code
 - Location
 - Status information

3. Intersection Channelization & Occupancy Status Display

- The system automatically generates a channelization diagram based on pre-configured geomagnetic device numbering rules.
- Real-time occupancy status:
 - Red geomagnetic icon: Vehicle detected
 - Green geomagnetic icon: No vehicle detected

4. Average Occupancy Rate

- Displays lane-specific average occupancy rates (per direction) for the last hour.

5. Traffic Flow Information

- Displays lane-specific traffic flow data (per direction) for the last hour.

6. Speed Information

- Displays lane-specific speed data (per direction) for the last hour.