ROBO-TEK

Robo-Busser (D150)

Table Clearing & Delivery Robot

User Guide

Robo-Tek International

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Contents

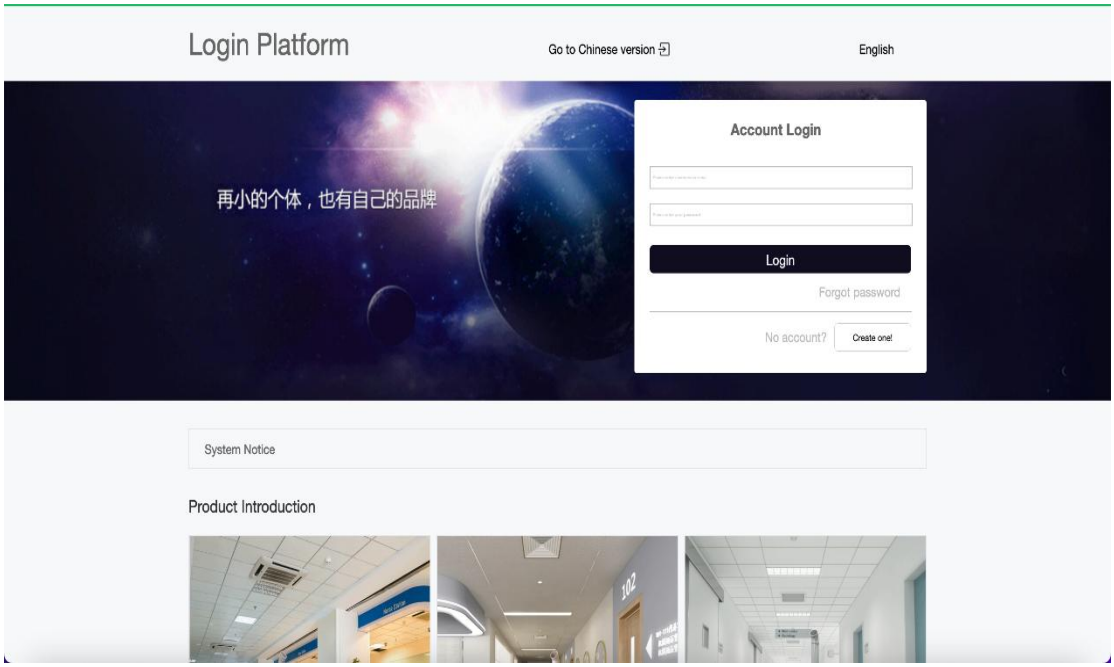
Revision History

Revision No.	Date	Description	Revised By
1.0	July 14, 2023	Initial version	Tian
1.1	April 28 2026	Update	Robo-Tek

I. Account Registration and Login

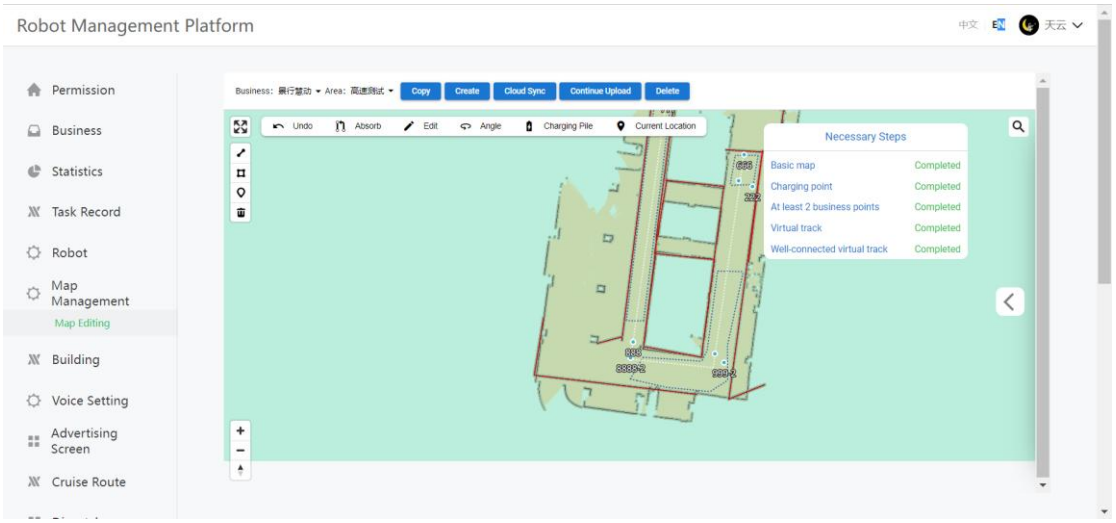
1. Users : visit address: serviceglobal.autoxing.com/admin

   International customers can apply for application registration using their email, and Google Email is recommended as corporate email accounts may not receive the verification code. After receiving the verification code, please submit the application and wait for approval before logging into your account.



II. Create Maps and Set Delivery Routes

Quickly build a map using a computer, and add charging stations, standby points, and table numbers on the map. Connect these points to create delivery routes. The system supports automatic generation of link routes. On the right side, there will be basic validation of “necessary steps” to inform users if there are any missing operations. If any relevant operations are missing, it may affect the normal operation of the robot.

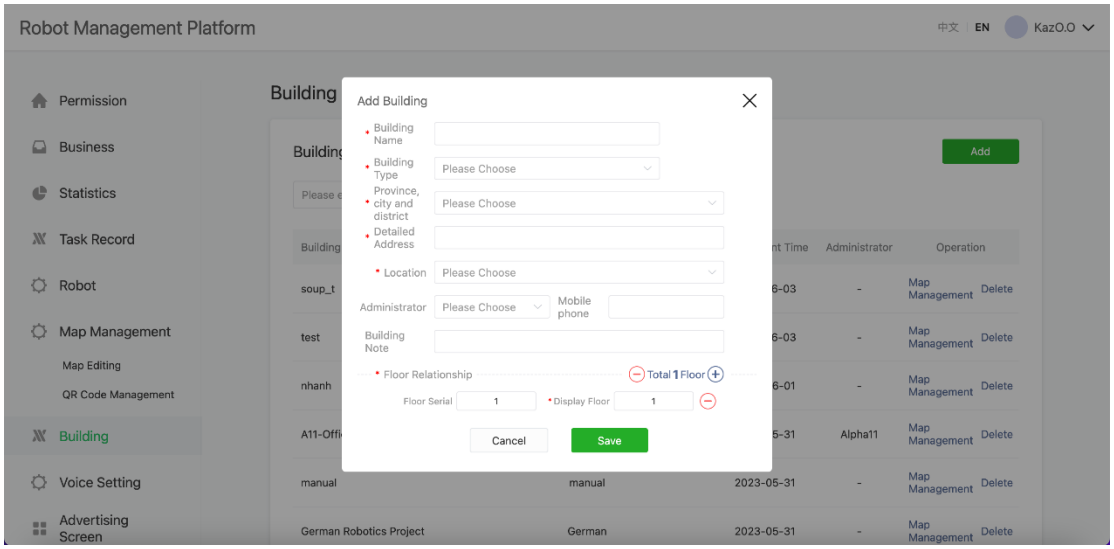


Robot side: Update Map and Execute Tasks

On the robot, go to "Settings -> System Settings" and click on "Update Map." Once the location is confirmed correctly, you can send instructions to execute tasks.

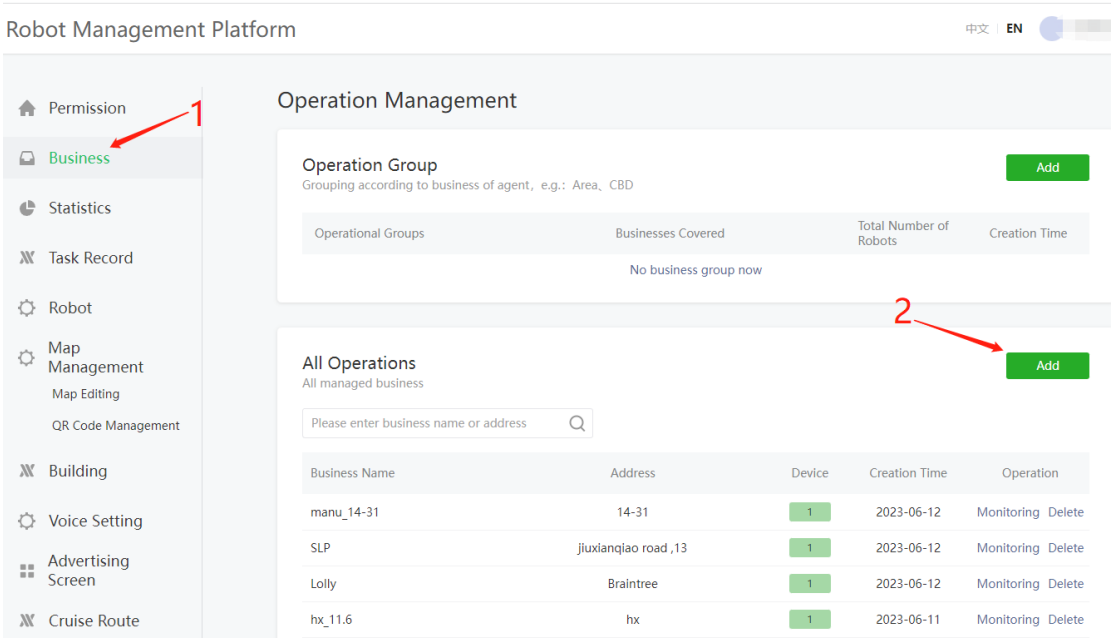
1. Creating Buildings

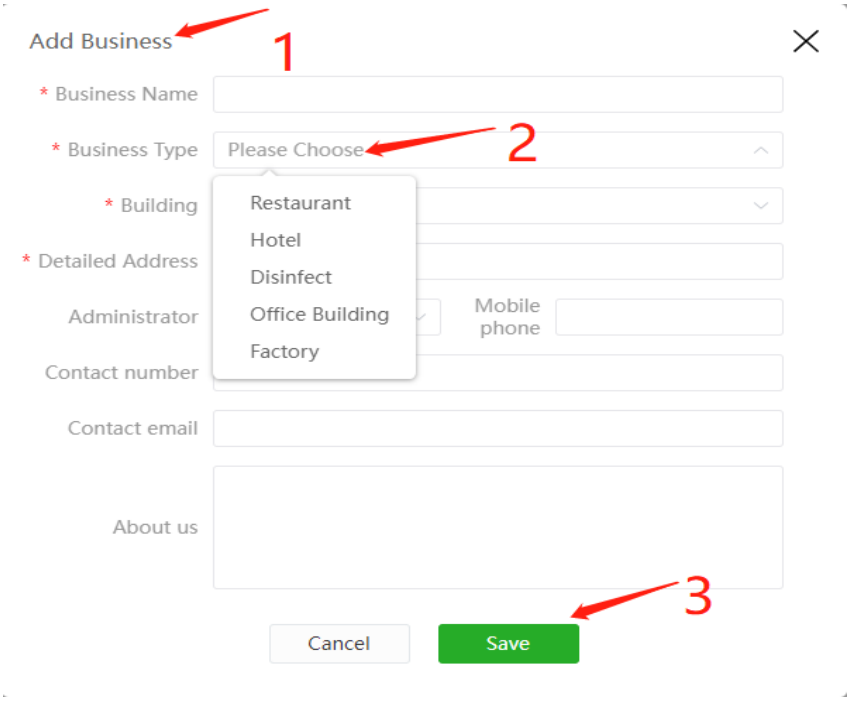
Click on "Building" -> "Add" -> Enter the relevant information and click "Save".



2. Creating Businesses

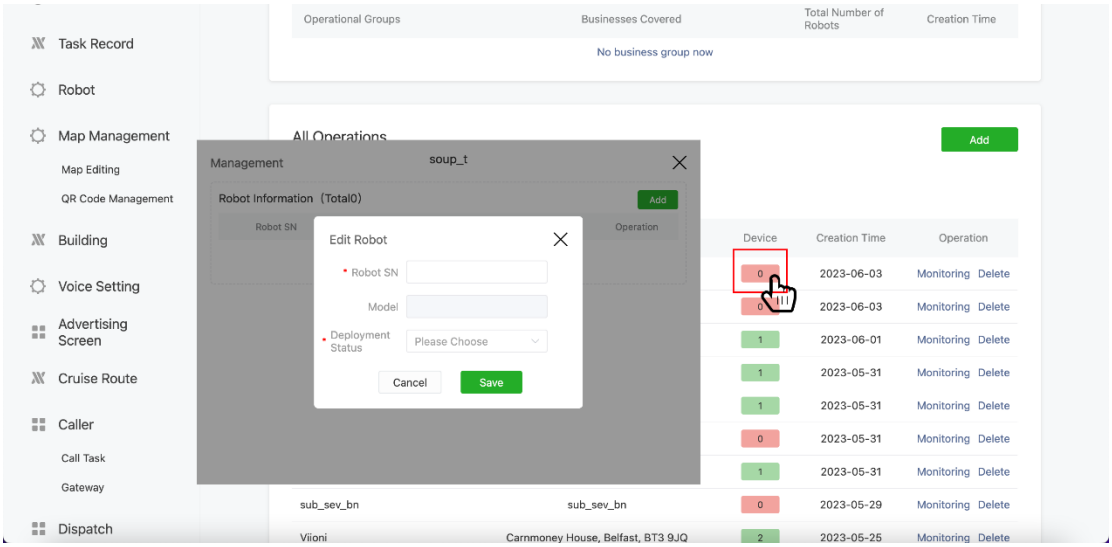
Click on "Business" -> "Add" -> Associate building information and click "Save".





*Note: According to the specific usage scenario, select the corresponding robot type that matches the robot-side app mode. If they are not consistent, you need to modify the type or switch the app mode.

Click red icon under Device as marked in the picture - enter the sn of the robot to bind the robot.

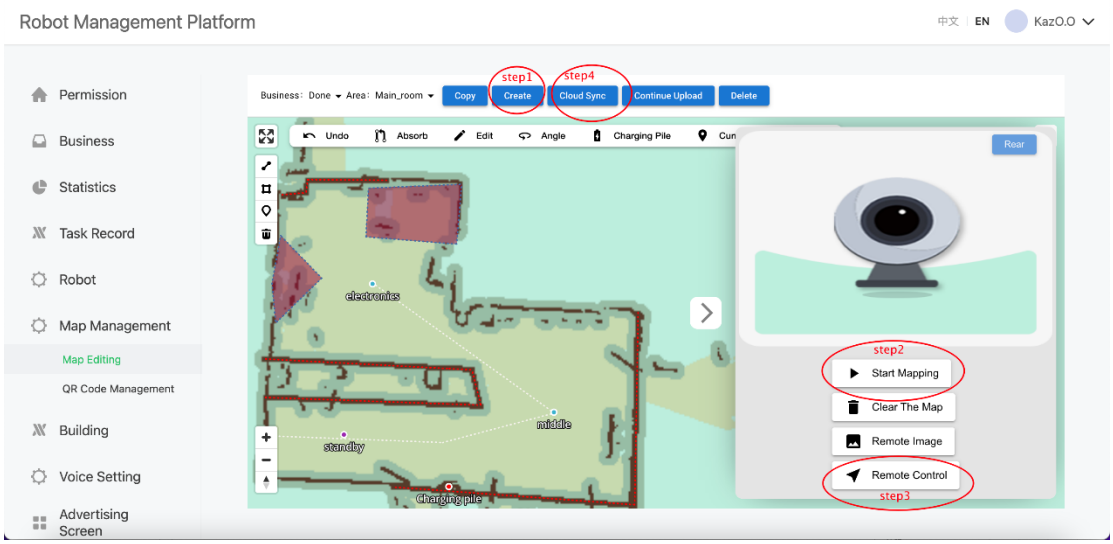


3. Mapping and Editing

Overall Process

The robot map deployment should be completed in the following functional order:

Scan Map (Mapping) -> Edit Map (Mark Points) -> Task Routes (Draw Lines)



(1) Scanning the map is the initial prerequisite for the robot to carry out the delivery task.

(2) Click the "Create"(Step1) button on the robot management platform to select the robot and floor.

(3) Click on the right sidebar to start mapping (step2) and then open remote control (step3).

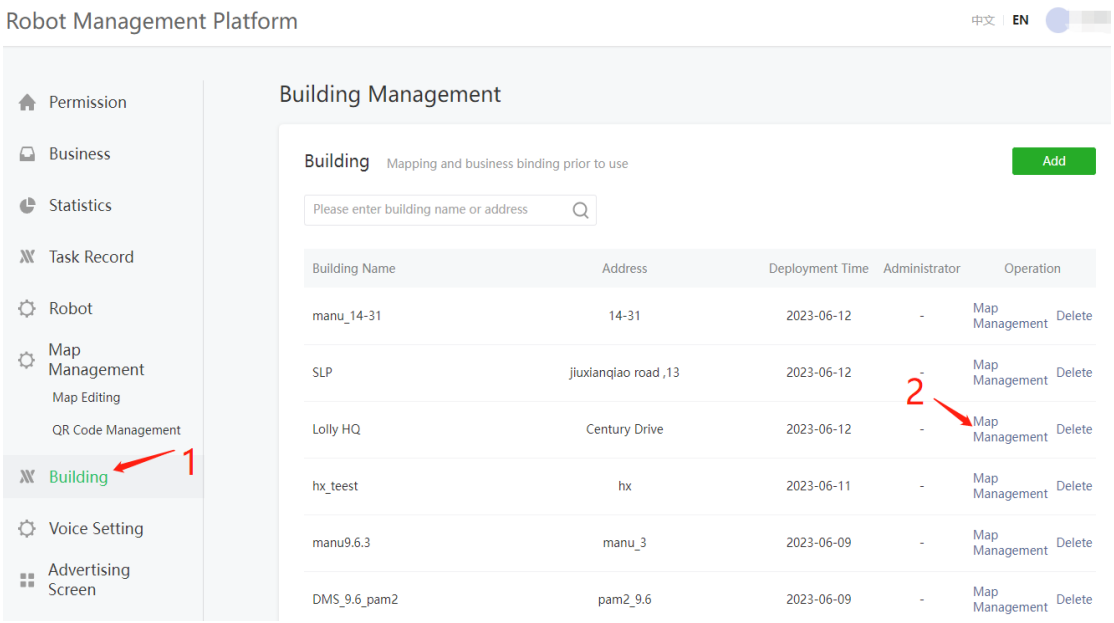
(4) After the map is completed, be sure to click "Cloud sync" (step4) to synchronize the map to the cloud and the robot chassis.

(5) It is recommended to use PC side to do mapping, which is more flexible for editing points and routes.

Mapping Steps

1. Create Map

Enter "Building" and click on "Map Management" to start the map creation or editing operation.



1) Click "Create".
2) Click on "Start Mapping" on the right.
3) Open “Remote Image”. If the video is lagging, stop controlling the robot's movement, close the remote image, and then reopen it.
4) Set a "Charging pile". When the robot is on the Charging station, click “Charging pile” to add charging pile point. After completing the mapping process, use the left mouse button to select the charging station point. Choose "Angle" to adjust the direction of the charging station. *Note: The charging station direction must be facing the robot, otherwise the robot will not function properly.
5) Mapping

a) **Remote controlling.** Under the control of the "joystick," drag upward to make the robot leave the charging station. Then, drag to the right or left to make the robot rotate 360 degrees in place. Once the rotation is complete, stop using the "joystick." *Note: Use the joystick with caution as it lacks obstacle avoidance functionality. After the map is displayed, in the "light-colored map area" in front of the robot, use the click the mouse to navigate, and the robot will automatically follow.

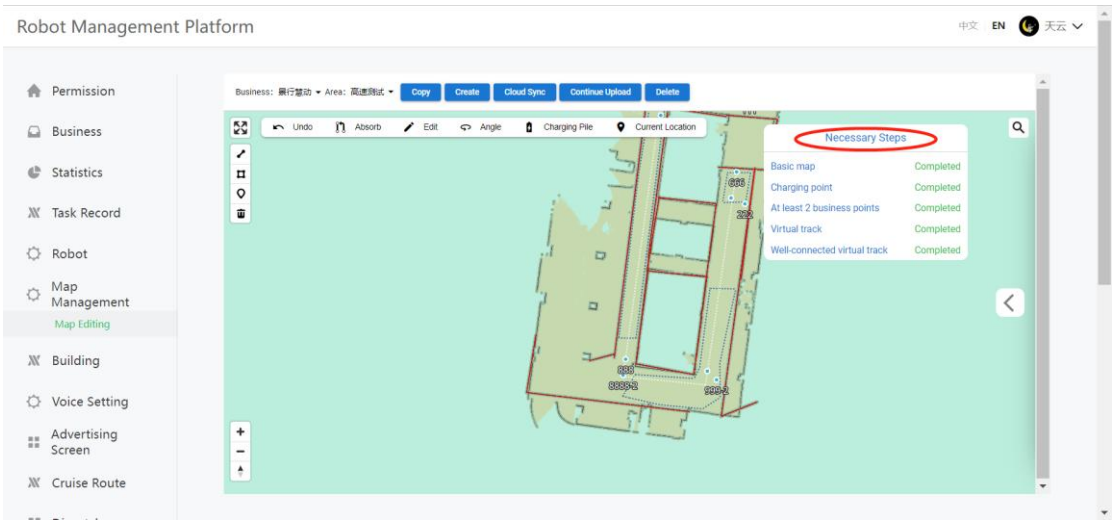
b) **Manual Mapping on-site**. Press the "red emergency stop button" on the robot, push from behind the robot to perform mapping.

2. Map Editing

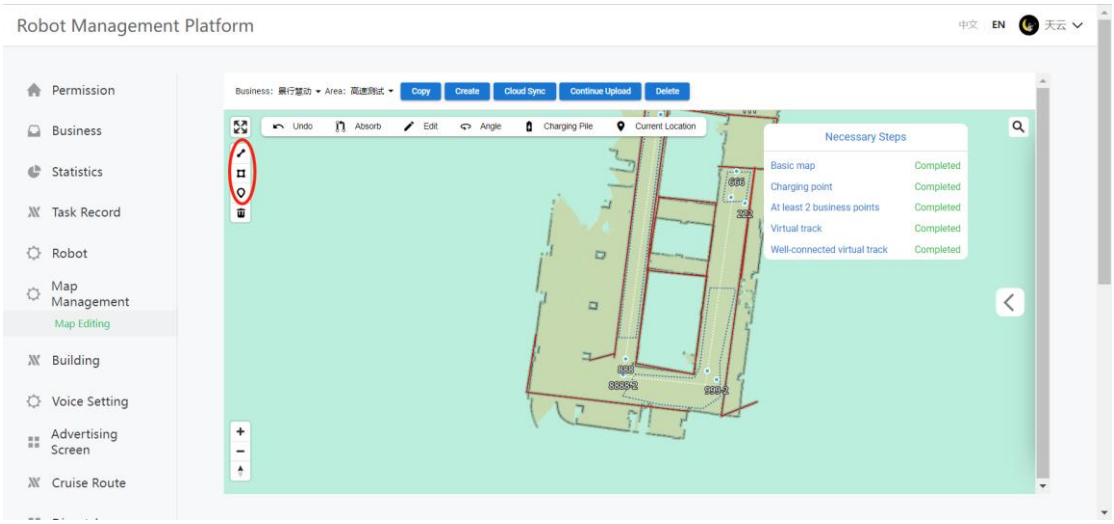
2.1 Necessary Steps

The robot requires the following information to function properly:

1) A map is needed.
2) The map should include a charging station point. Regardless of the number of maps under a service, only one charging station should be set to prevent abnormalities.
3) Each map should have a minimum of two or more POI (Point of Interest) stations.
4) Within each map, there should be "virtual track lines." Virtual track lines are used for path planning, and where multiple virtual track lines intersect, they need to be connected through the "absorb" function to form a continuous line.



Click the button inside the red frame to enter "Marking Mode" for editing various functional points (charging stations, standby points, virtual walls, etc.)



If you click on a functional point on the top bar colomn, it will be marked based on the robot's self-positioning.

Once the points/ special areas have been added, you can exit the Marking Mode. After editing is completed, click "Cloud Sync."

2.1.1 Setting Charging Station

Step 1: Select the charging station point, and the point will be boldened.

Step 2: Choose "Angle," press and hold the left mouse button, and you can set the angle for the charging station point.

Step 3: The charging station angle should be directed towards the robot.

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2.1.2 Setting Delivery Points

Within the page, click on the "Point" option in the left menu. When the mouse cursor changes to a crosshair with a "+", you can set delivery points on the map area. It is recommended to set at least 2 points. Select the attribute as "Table Number".

To set the angle of the point, first select the point with the mouse, then choose "Angle" to adjust. The direction indicated by the red arrow is the forward direction of the robot.

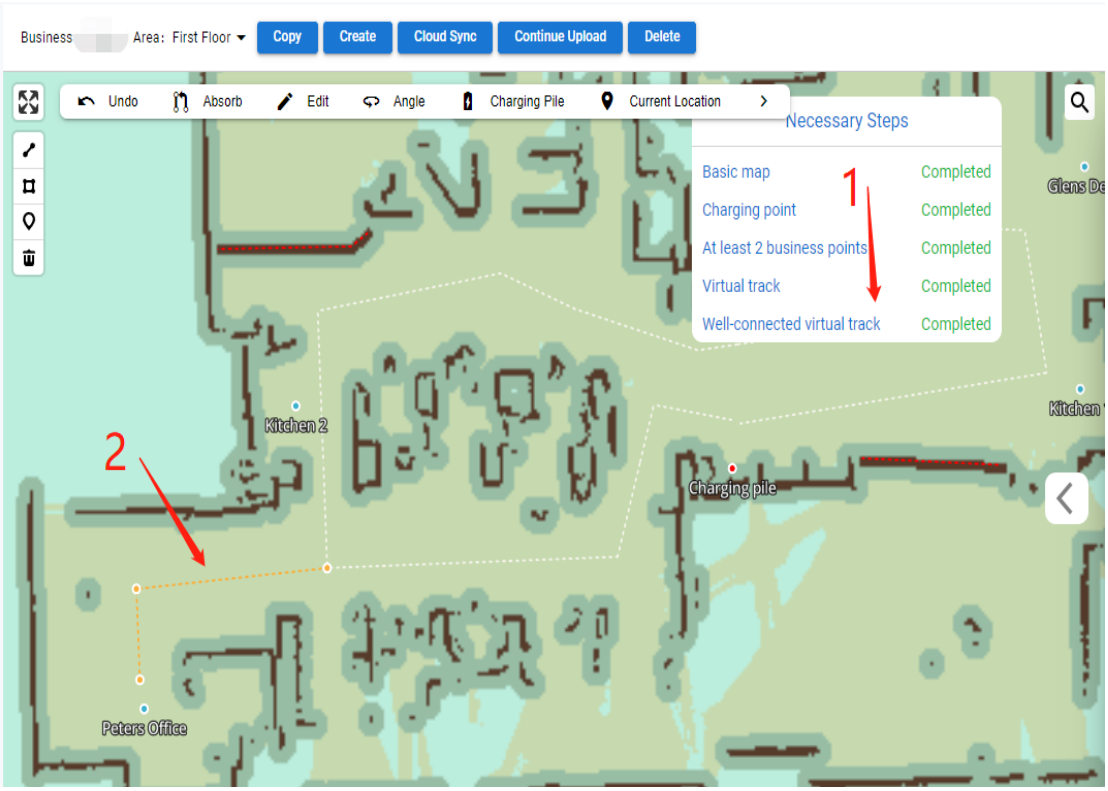
2.1.3 Setting Virtual Tracks

"Virtual Track Lines" are used for path planning.

1) Use the left mouse button to "click" on the aisle area of the map and draw the track line towards the delivery area. Double-click the left mouse button to finish drawing the line. At this point, a pop-up message will appear asking whether to "absorb" the line. You can choose to cancel and manually perform the "absorb" operation later.

2) If there are multiple "Virtual Track Lines" intersecting, they need to be connected using the "absorb" feature. First, select one of the lines, then click on one of its endpoints, and then click on "absorb" to connect them.

3) Check if the virtual track lines are connected. After selecting a white "Virtual Track Line," hold down the letter "A" on the keyboard. If the subsequent lines turn orange, it means they are "connected." If the colour does not change, you need to use the "Absorb" function to connect them one by one.



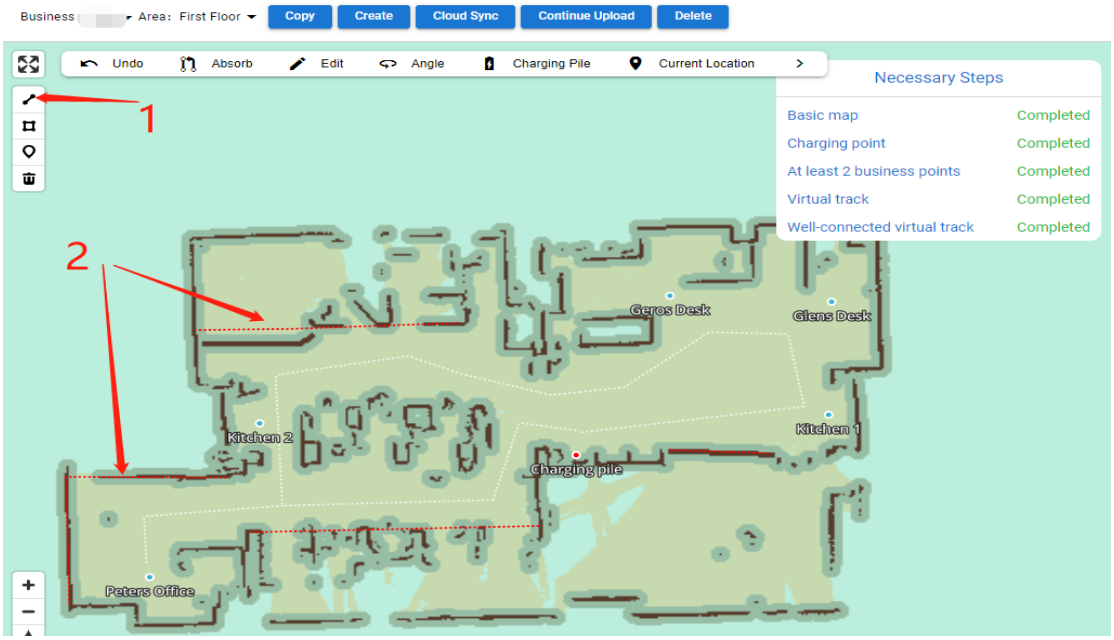
Having completed these steps, the map has been basically completed:

2.2 "Bonus Points" in the map

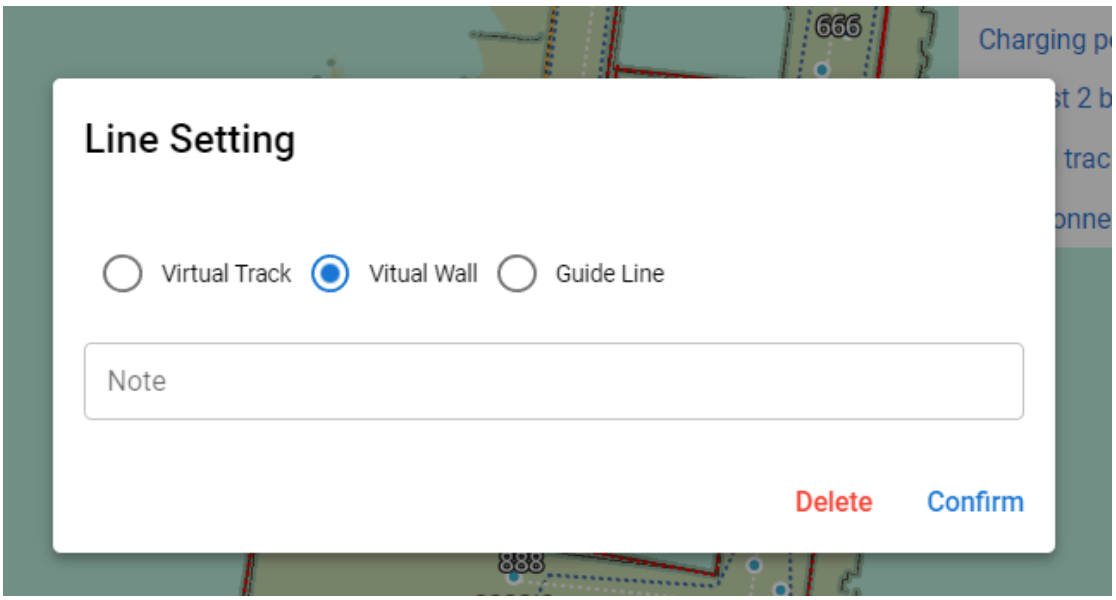
"Bonus Points" in the map refers to additional features or elements that enhance the map.

2.2.1 Setting Virtual Walls

1) In the map, risk areas and areas that robots cannot go to can be enclosed with red "virtual wall".



2) After selecting the red line in the image with the mouse, you can choose "Edit" to view or perform other operations.



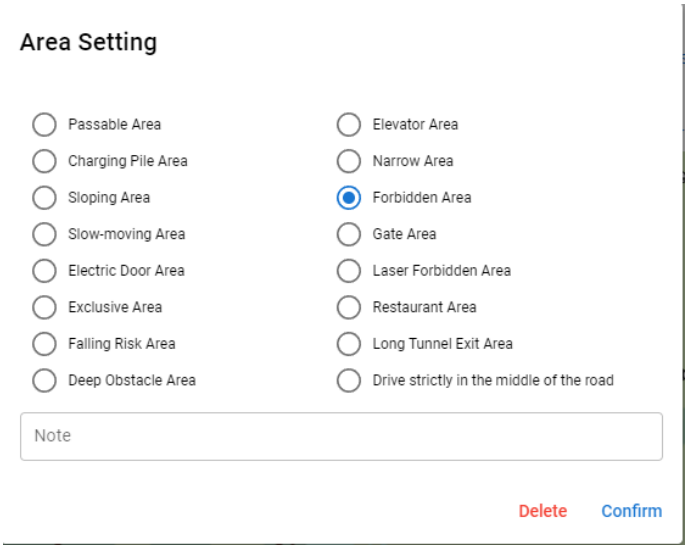
2.2.1 Setting Polygon Areas

1) Passable Area: Eraser function to remove noise points in the aisle.

2) Elevator Area: If the robot uses an elevator, draw an elevator area to indicate the area inside the elevator.

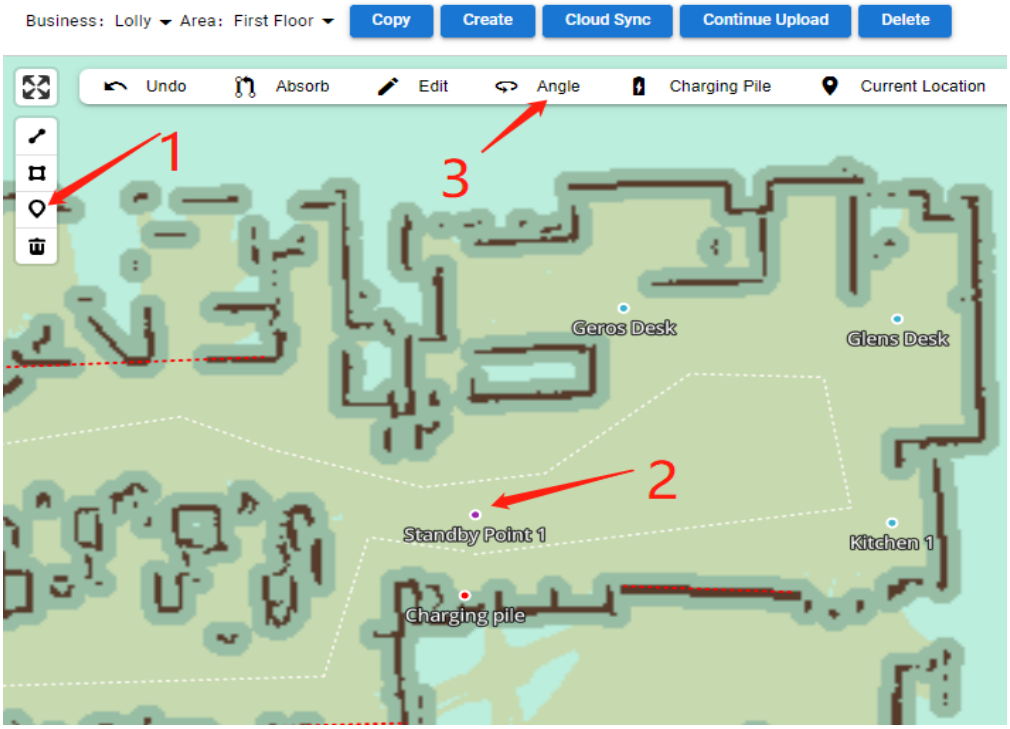
3) Slope Area, Slow-down Area: Drawing these areas will cause the robot to slow down when passing through them. The default speed is 0.35 m/s.

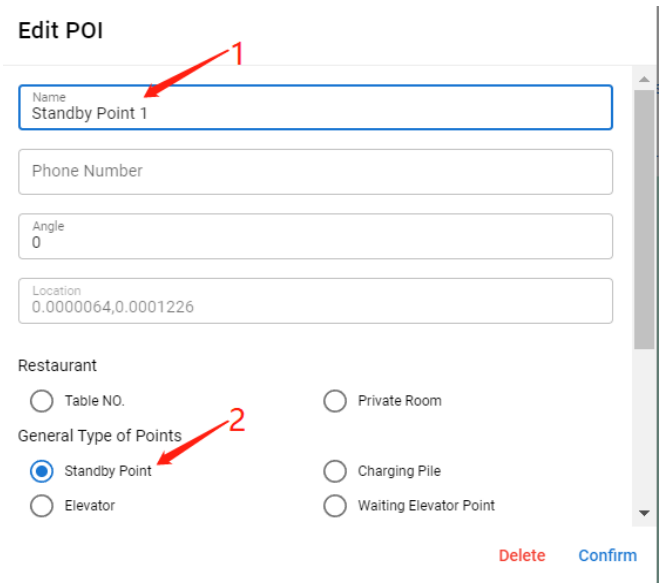
4) Other areas: If needed, follow the same drawing method as mentioned above. You can perform operations based on the requirements within the map.



2.2.1 Setting Standby points

Standby points are typically set at the restaurant's serving counter, hotel reception, or other convenient locations for task assignment. The "angle" of the standby point can be set according to your preference. The method of setting the angle is the same as that of setting the angle for the point.





3. Cloud Sync

After the final map modification is completed, it is necessary to remember "cloud sync" to prevent information loss within the map.

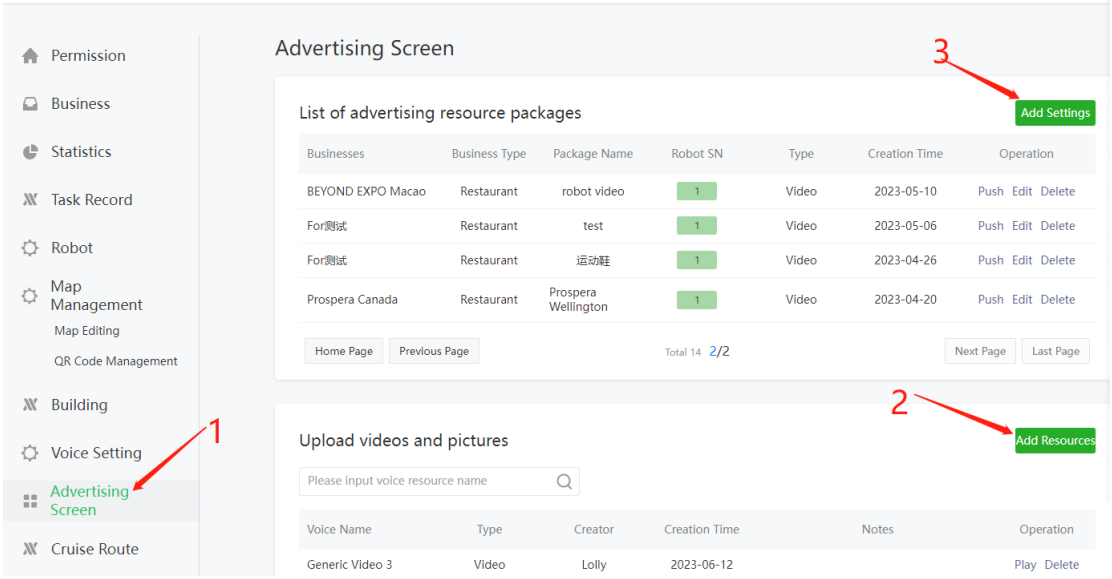
III. Mars robot AD screen Setting

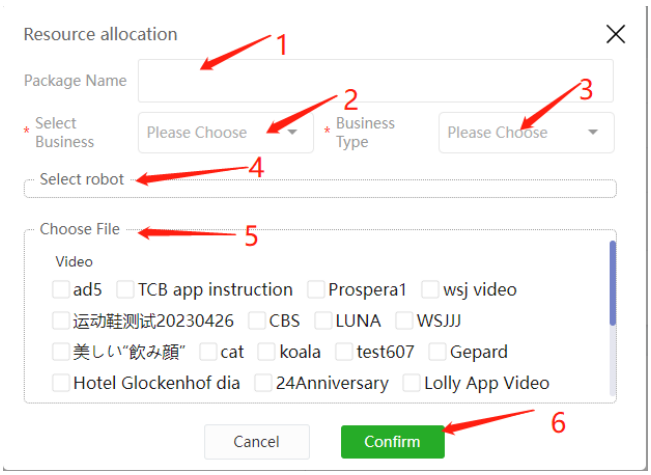
Step 1: Robot management platform, Advertising Screen.

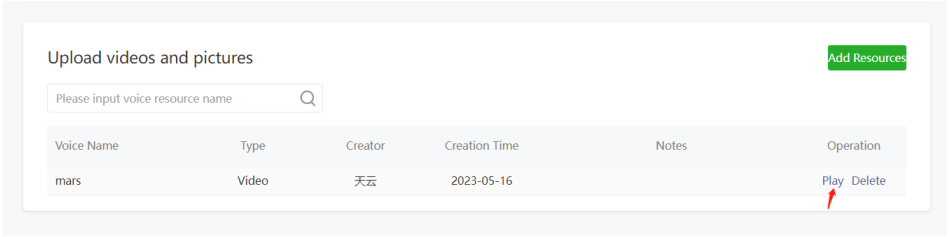
Step 2: Add Resources. Image JPG format, video MP4 format. 1 video with a maximum of 100 megabytes. After successful addition, you can click on "Play" to preview.

Step 3: Add Information-Confirm

Step 4: On the robot, go to Settings -> Ad Screen Settings -> Update Resources.





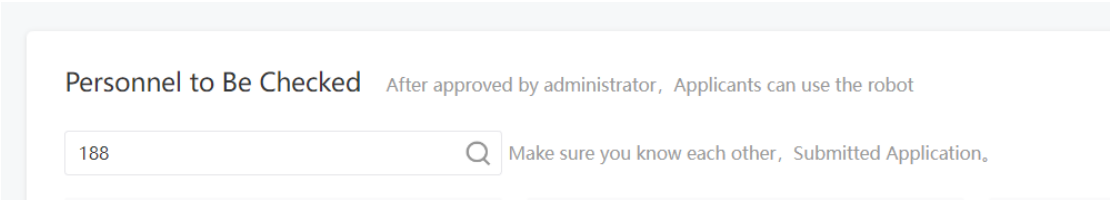


IV. Permission Management

1. Permission Approval

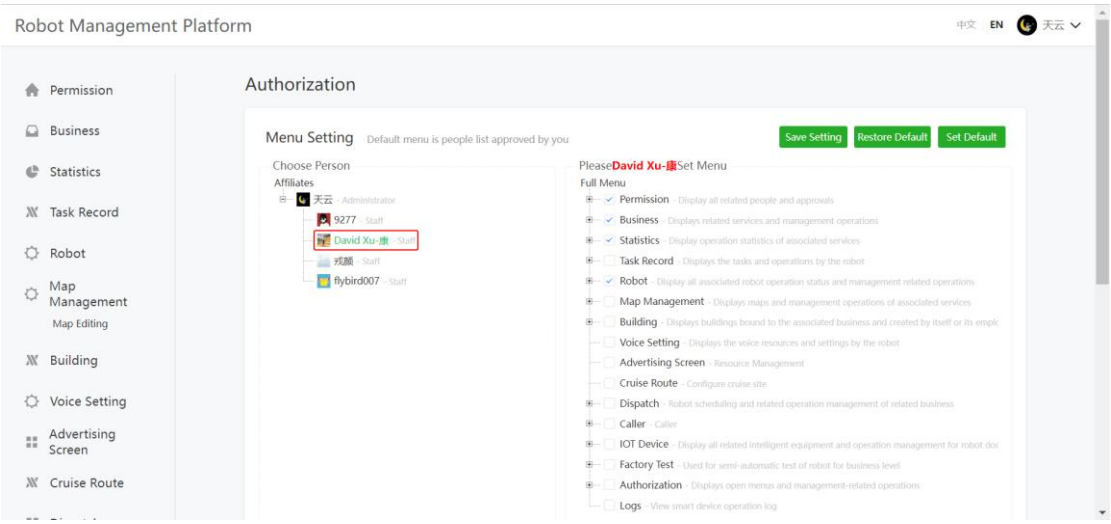
Go to "User Management" and search for the WeChat username or registered email of the person to be approved in the list of pending users. Assign them the role of "Operator," "Administrator," or "Employee." Select the business(es) managed by the person being approved and save the changes.

*Note: Before granting permission approval, make sure to create buildings and then create businesses and associate them with the buildings.



2. Authorization

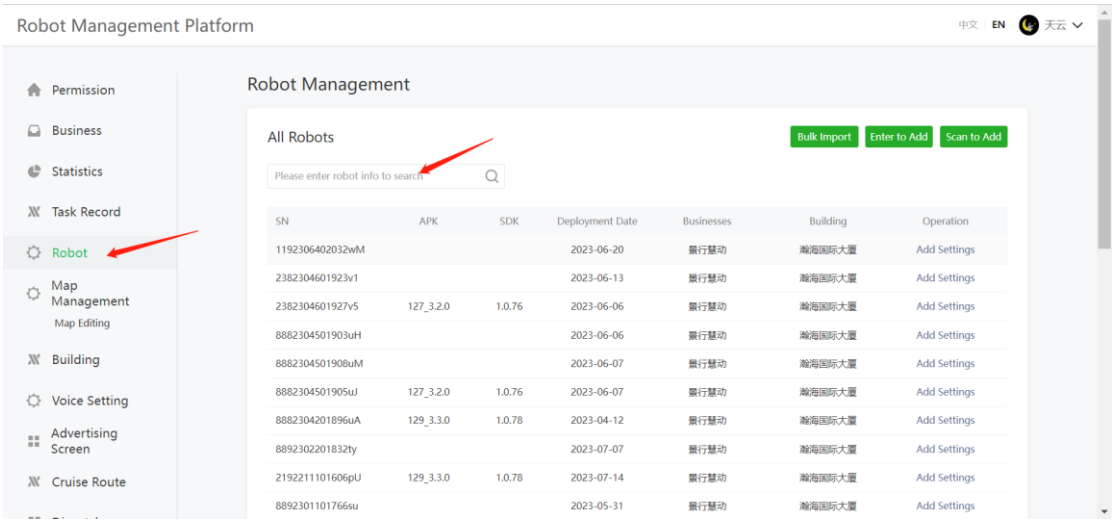
Go to "Menu Management" and select the person(s) awaiting permission allocation (you can use Ctrl+F to search). On the right side, tick the permissions to be assigned and click on "Save Settings."



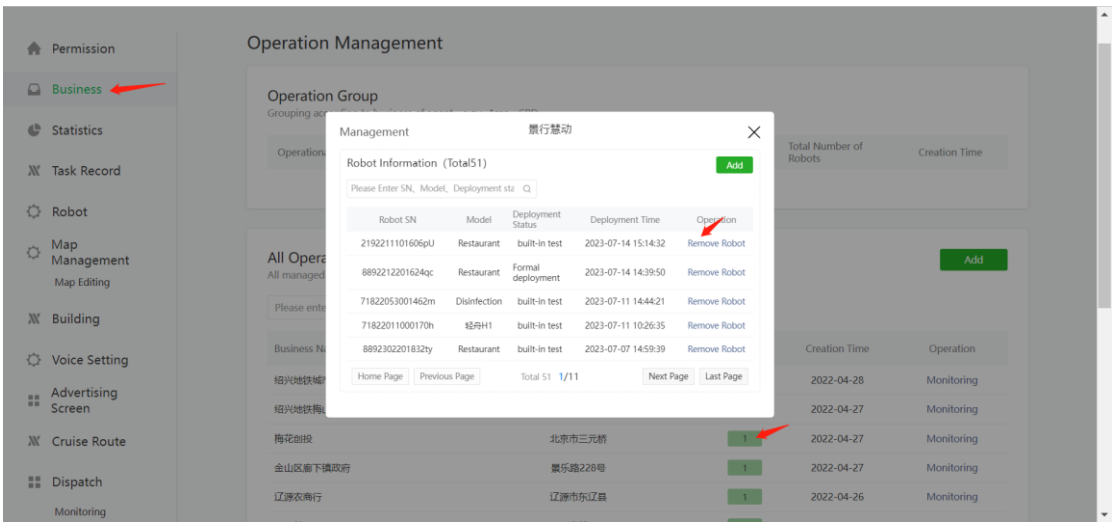
V. Robot Management

Adding a robot to a new business.

If the robot is currently assigned to a different business, start by searching for the robot in "Robot" to determine which project it belongs to.



Enter the original business, copy the robot's SN (Serial Number), then remove the robot from that business. Finally, add the robot's SN to the new business.



Robo-Tek Support & Service

For service, support, parts or technical assistance, please contact Robo-Tek:

Email: service@robo-tek.com.au

Phone: 03 9357 5662 (Option 1)

Please provide the robot serial number and a clear description of the issue when requesting support.