

SingularXYZ

**Singular Caster
Software User Manual**

Introduction

Thank you for choosing SingularXYZ Converter software. This article will provide information about the installation and use of the software. It will guide you to successfully complete the data transmission.

Proprietary Notice

The information in this article is subject to change without notice and does not represent a commitment by SingularXYZ Intelligent Technology Ltd. The software described herein is provided under a license agreement or non-disclosure agreement, and the software may only be used or copied in accordance with the terms of the agreement. Copying software in any media is illegal unless expressly permitted in a license or non-disclosure agreement.

No part of this manual may be reproduced and transmitted in any form or by any means (electronic or mechanical), including photocopying and recording, without the express written permission of a duly authorized representative of SingularXYZ Intelligent Technology Ltd.

Corporate Office

SingularXYZ Intelligent Technology Ltd.

Room 211, Floor 2, Building A, No. 599 Gaojing Road, 210702 shanghai, China

Tel: +86-21-60835489

Fax: +86-21-60835497

Website: <https://www.singularxyz.com>

E-mail: singularxyz@singularxyz.com

Technical Assistant

If you have any problems that cannot be solved while using this manual, please contact your local SingularXYZ distribution partner or seek technical support from SingularXYZ Intelligent Technology Ltd.

Support E-mail: support@singularxyz.com

Support Skype: [Support.SingularXYZ](https://www.skype.com/join/Support.SingularXYZ)

Your feedback on this manual will help us improve it in future revisions.

©2021 SingularXYZ Intelligent Technology Ltd. All rights reserved.

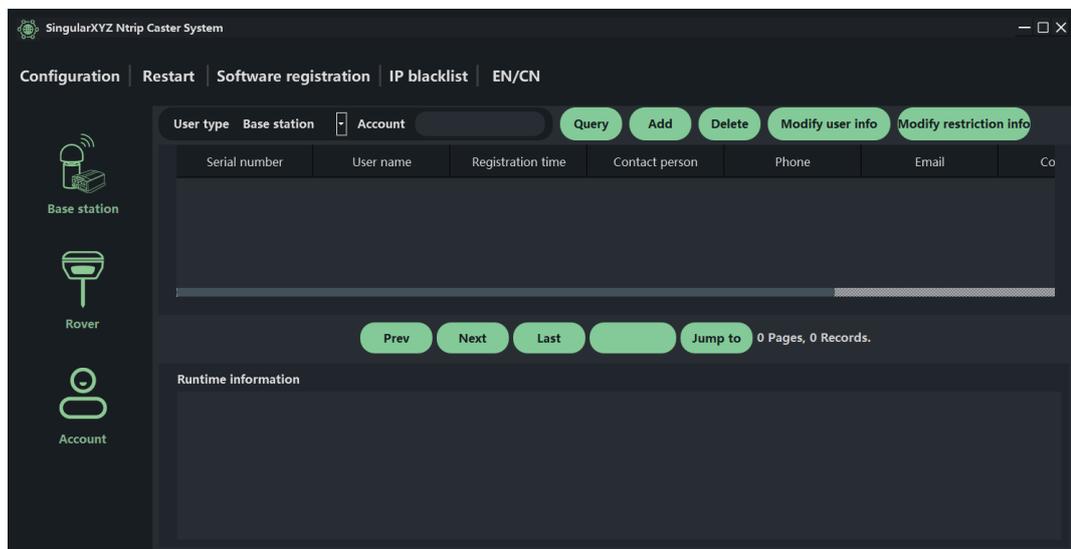
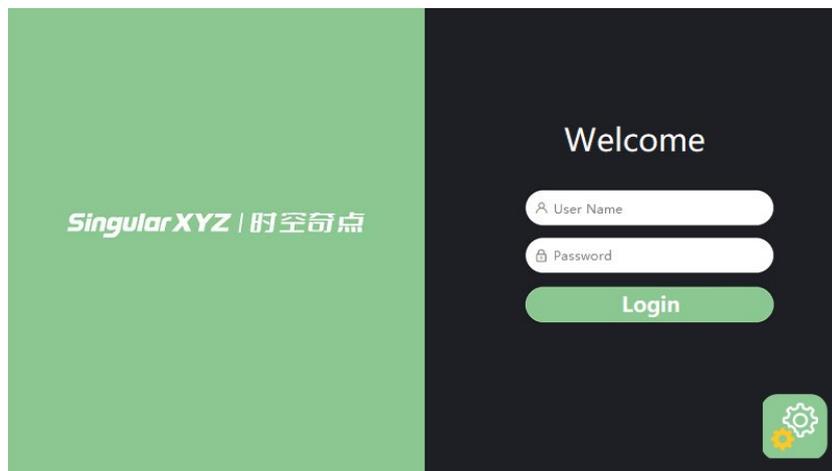
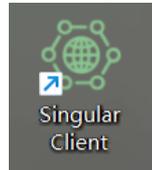
Table of Content

Chapter 1 Introduction	1
Chapter 2 Installation	2
2.1 Configuration requirements.....	2
2.2 Installation procedure.....	2
2.2.1 Postgresql Database installation	2
2.2.2 Singular Caster server installation	5
2.2.3 Singular Caster client installation	6
Chapter 3 Software interface	8
3.1 Login software	8
3.2 Configuration software.....	9
3.3 software registration	10
3.4 Main interface introduction	11
Chapter 4 Use of software functions	13
4.1 Menu	13
4.2 Management.....	13
4.2.1 Base station management.....	13
4.2.2 Rover management.....	14
4.2.3 Account management.....	15
4.3 Information display.....	15
Chapter 5 Data upload	16
5.1 Create account.....	16
5.2 Upload data.....	16
5.2.1 Upload base station data.....	16
5.2.1.1 Web interface.....	16
5.2.1.2 SingularPad software.....	18
5.2.1.3 SingularSurv software	19
5.2.2 Upload rover station data	19
5.2.2.1 Web interface.....	19
5.2.2.2 SingularPad software.....	21
5.2.2.3 SingularSurv software	21
Chapter 6 Restriction Function	23
6.1 IP Blacklist.....	23
6.2 Rover station restrictions.....	25
6.2.1 Data limit.....	25
6.2.2 Time limit	26
6.2.3 Regional restrictions.....	27

Chapter 1

Introduction

Singular Caster software is a service software, developed by Shanghai SingularXYZ Intelligent Technology Ltd, which is mainly responsible for receiving and sending differential data, and managing the data transmission between base stations and rover stations.



This document describes how to install and use the software. Please read this document carefully.

2.1 Configuration requirements

CPU: Dual-core, main frequency of 1.7GHz or more

Operating system: Windows server 2019 or later

System type: 64-bit

RAM: 6GB or above

ROM: more than 40G SSD

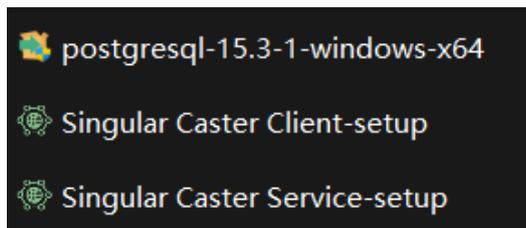
Bandwidth: 1M supports simultaneous online data transmission from 35 sites

Port: required 2 ports. One is 8000, which is the software login port, and the other is user-defined, which is the data transmission port

2.2 Installation procedure

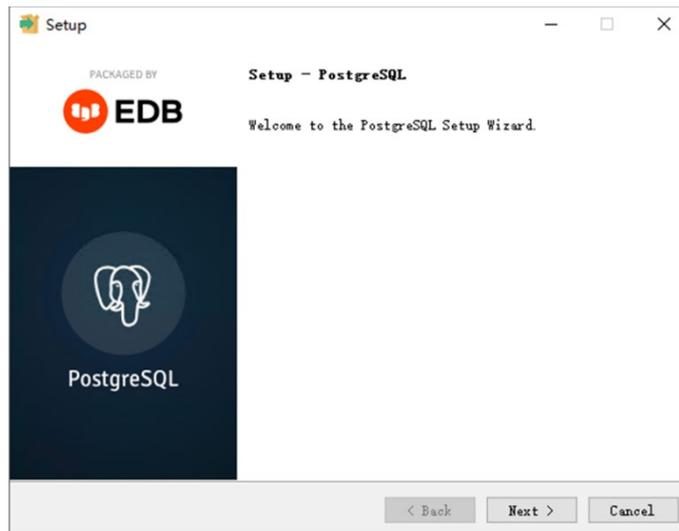
Installation Components

- 1、Postgresql Database
- 2、Singular Caster Server
- 3、Singular Caster Client

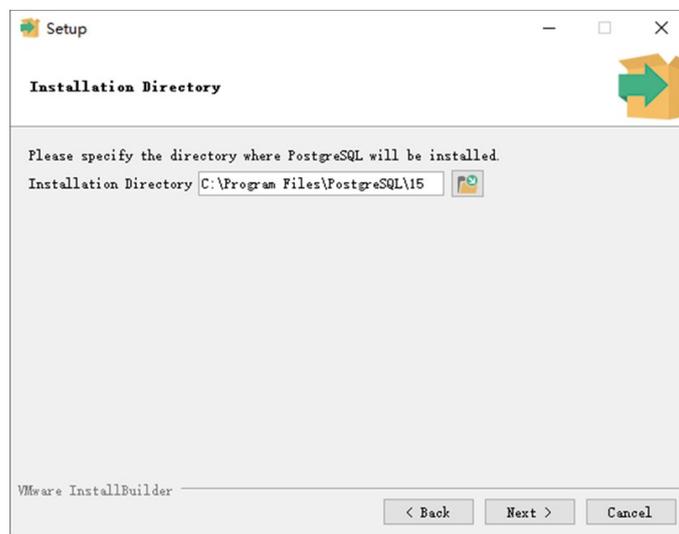


2.2.1 Postgresql Database installation

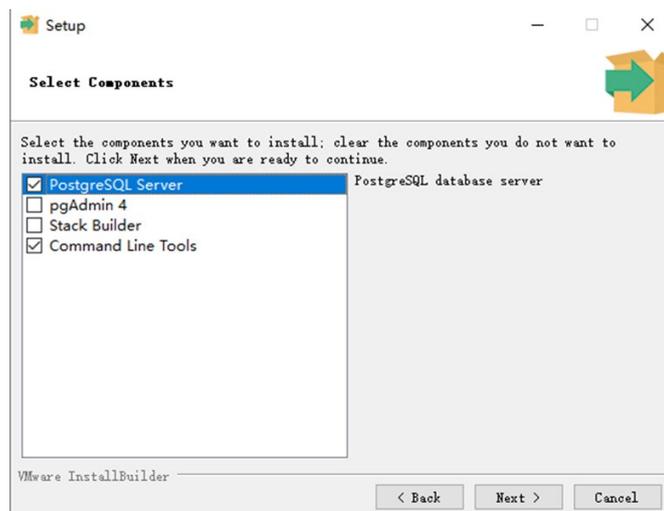
- Double-click postgresql-15.3-1-windows-x64 installer to enter the installation wizard interface.



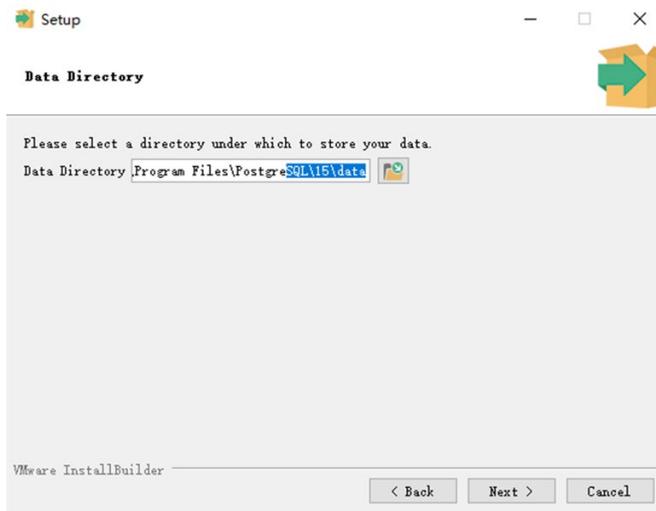
- Click Next to select the database installation location.



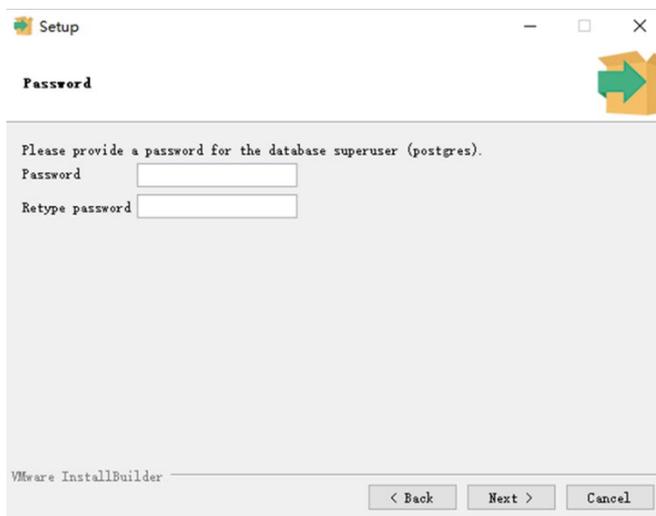
- Select the PostgreSQL Server and Command Line Tools components and click Next.



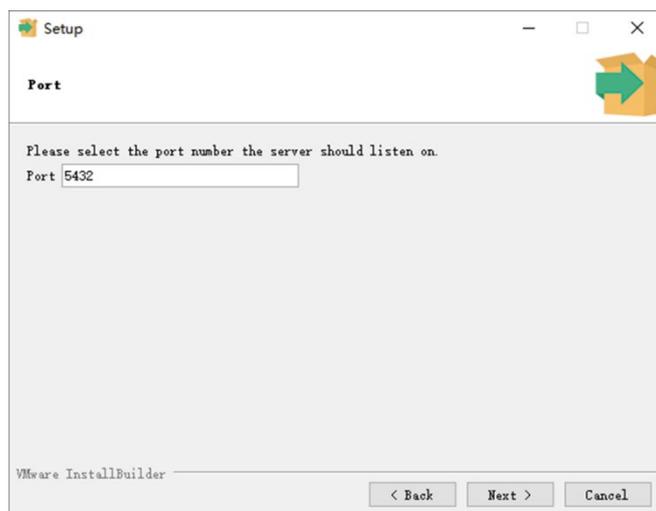
- Select the database data catalogue.



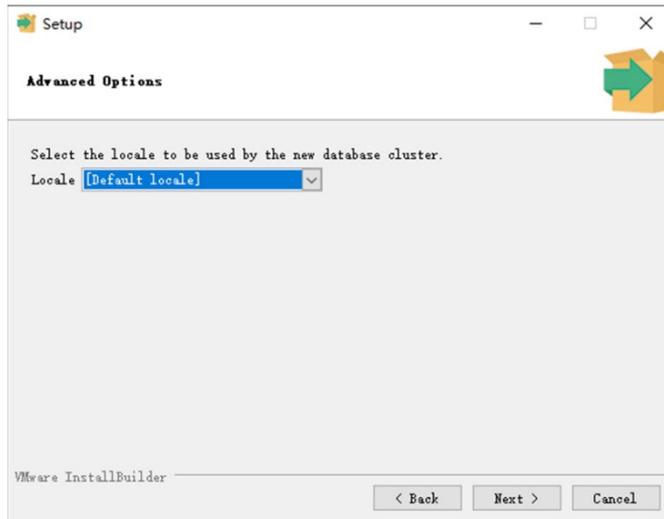
- Enter database password: t6yeb3.



- Set the port number of the database service to 5432.



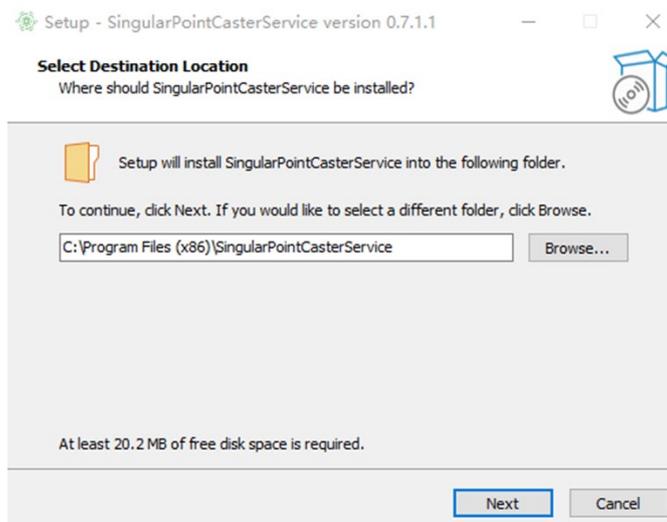
- Click Next.



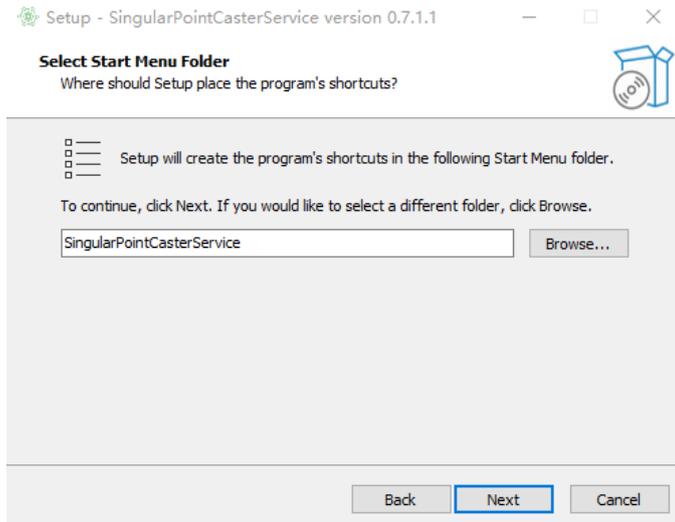
- Start installing the database and wait for it to complete.

2.2.2 Singular Caster server installation

- Double-click Singular Caster Service-setup.exe installation package to select the installation path.



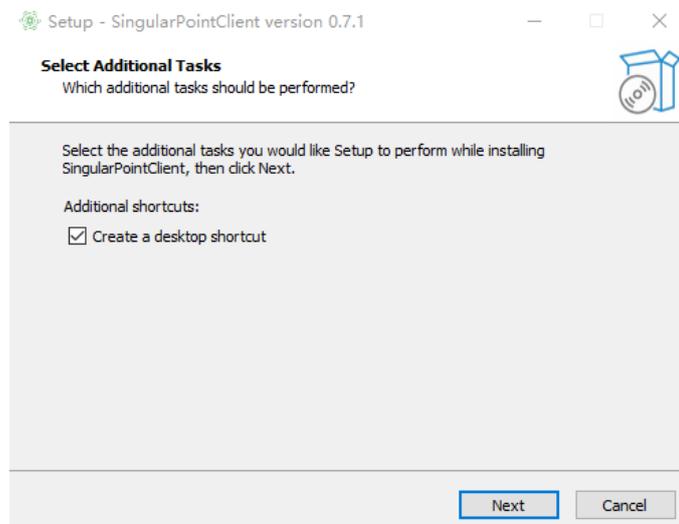
- Click Next.



- Click Next and wait for the installation to complete

2.2.3 Singular Caster client installation

- Double-click the Singular Caster Client-setup.exe installation package to enter the software installation wizard interface.



- Click Install and wait for the installation to complete.

Ready to Install

Setup is now ready to begin installing SingularPointClient on your computer.



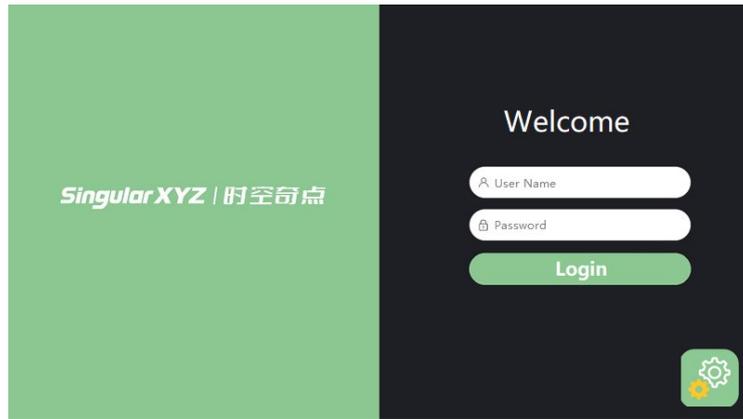
Click Install to continue with the installation, or click Back if you want to review or change any settings.

Additional tasks:
Additional shortcuts:
Create a desktop shortcut

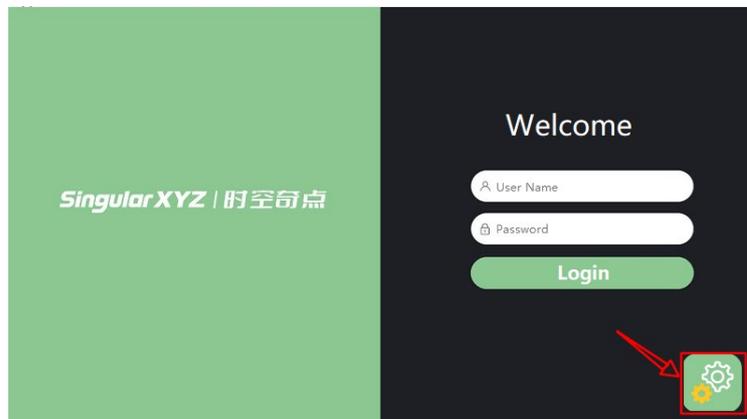
Back Install Cancel

3.1 Login software

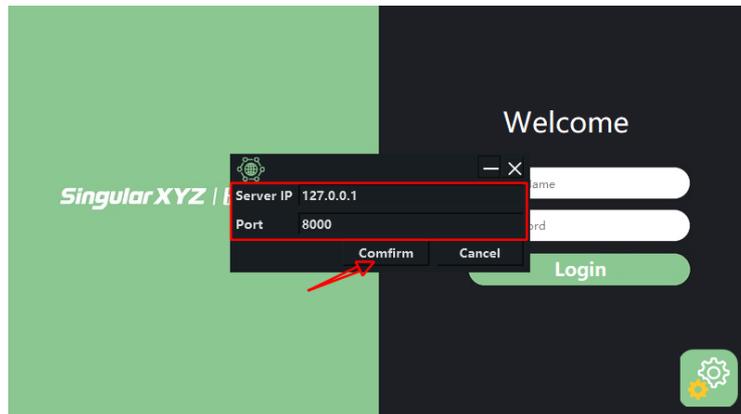
- Opens the software, and the login page is displayed



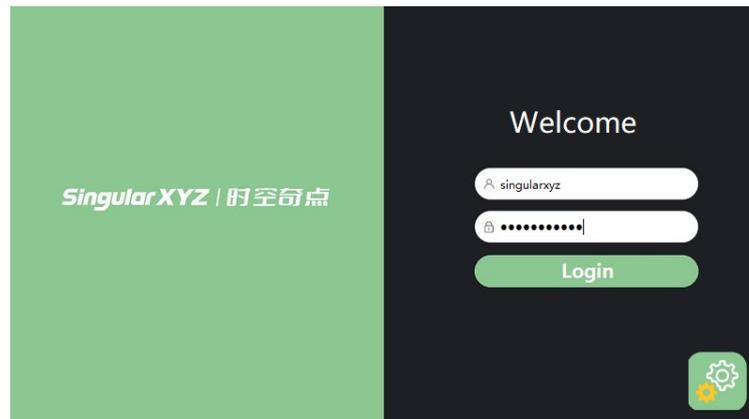
- Click the Settings button in the lower right corner to enter the login Settings interface



- Enter IP:127.0.0.1, Port:8000, and click Confirm

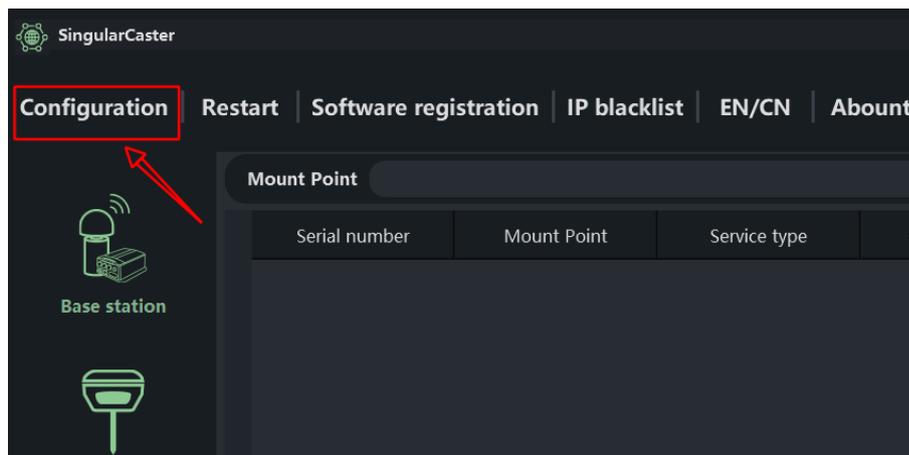


- Enter user name: singularxyz, password: singularxyz on the login interface, and click Login

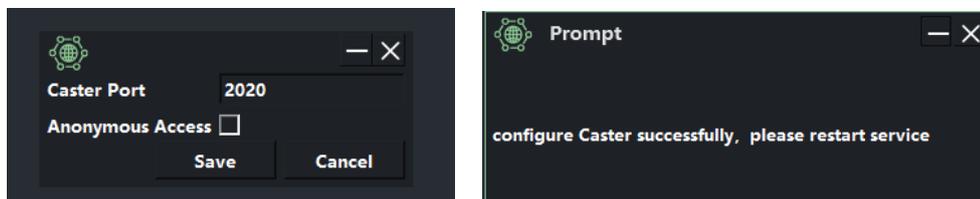


3.2 Configuration software

- After logging in the software, click the Configuration button

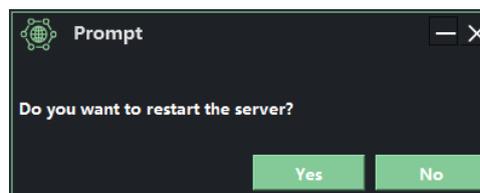
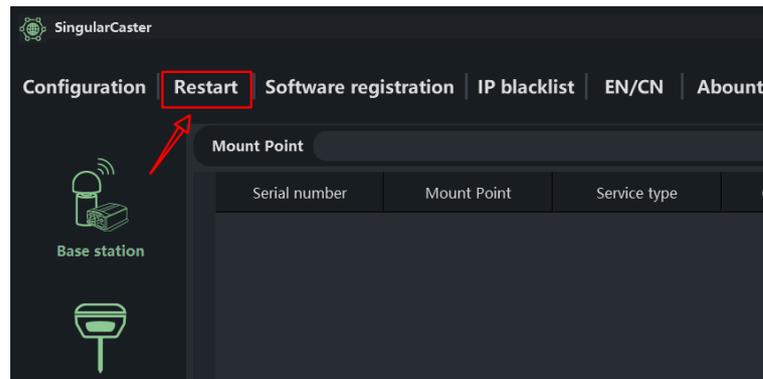


- Enter the custom data transfer port in the caster port, and click Save. After the configuration is successful, close the dialog box and restart the server



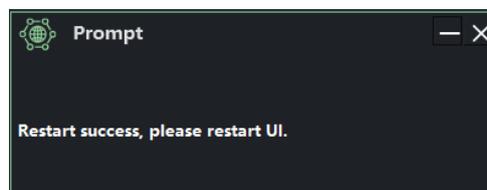
Anonymous Access: after the configuration, users can access the system anonymously, and administrators do not need to create related accounts for users

- Click the restart button in the main interface, in the pop-up dialog box, click Yes



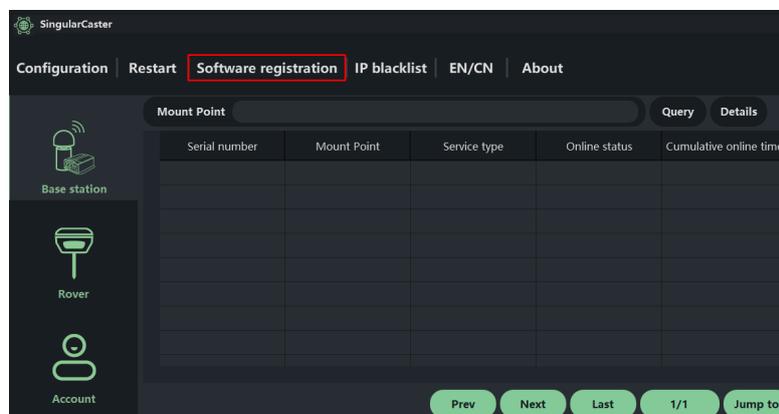
Tip: Server refers to the server side of the software, not the cloud server

- Wait for the server to restart, close the message indicating that the restart is successful, close the software, and log in again

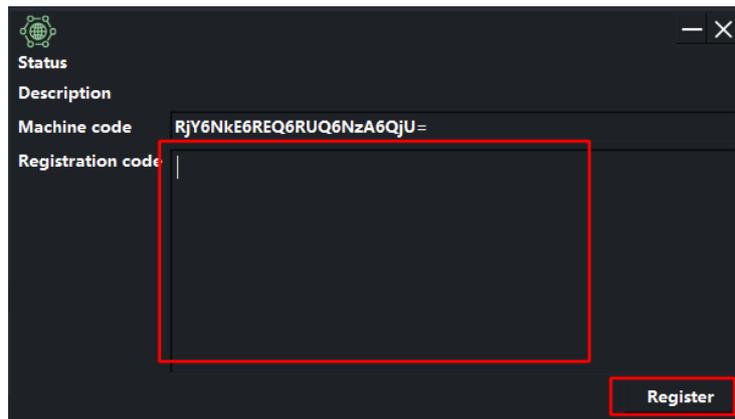


3.3 software registration

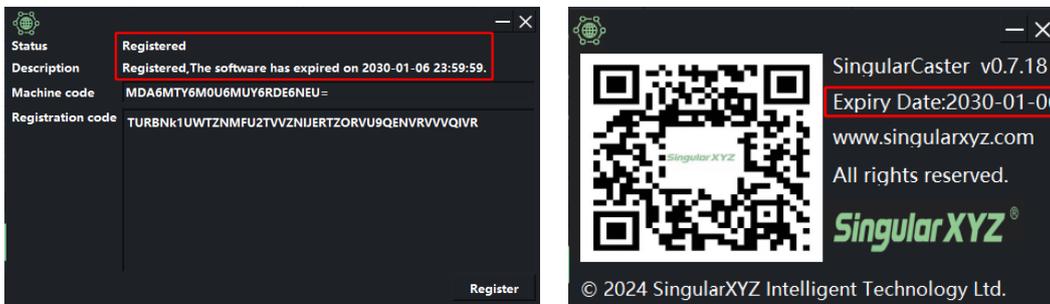
- Click the software Registration button on the toolbar



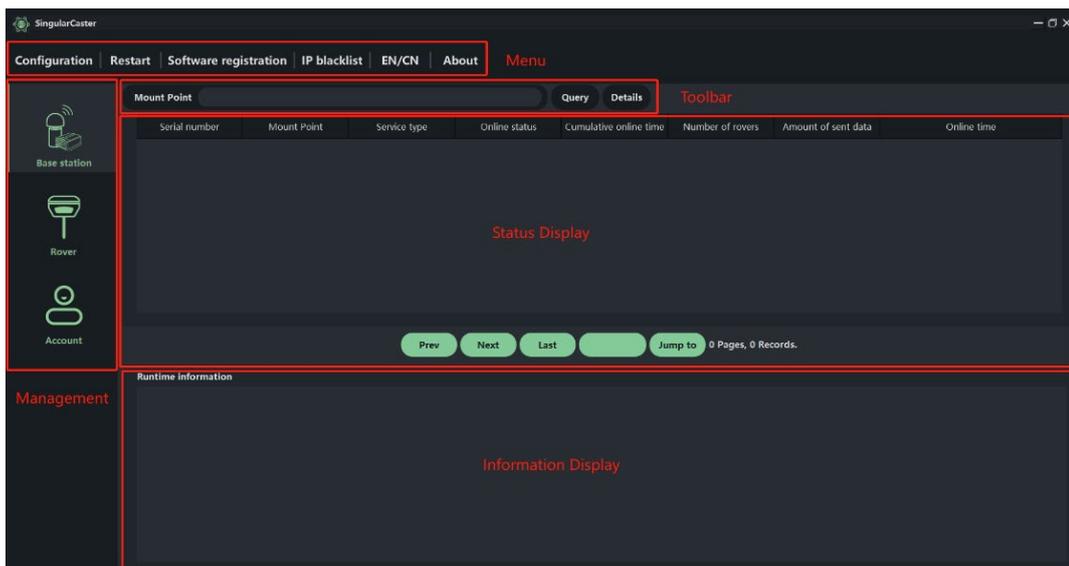
- Enter the registration code on the software registration interface, and then click Register



Tips: You can check the registration status by clicking the Software registration or about button in the toolbar



3.4 Main interface introduction



Menu: software setup and data transfer control

Toolbar: add, query, modify, and delete user information

Management: switch base station, rover, accounts to operate

Status Display: displays information about base stations, rover, and accounts

Information Display: record device online and offline information in real time

4.1 Menu

Configuration | **Restart** | **Software registration** | **IP blacklist** | **EN/CN** | **About**

Configuration: configure the port of the client and anonymous access

Restart: restart the server side of the software

Software registration: enter the registration code to register the software

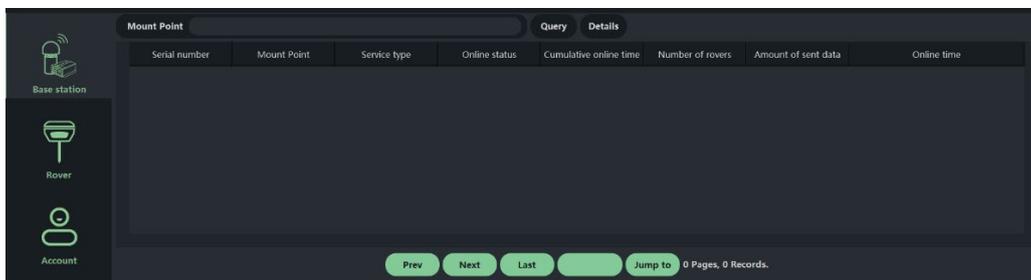
IP blacklist: add the IP address to the blacklist and prohibit its connection

EN/CN: switch software display language

About: software version, registration and company information

4.2 Management

4.2.1 Base station management



Toolbar

Mount point: the name of the uploaded base station

Query: enter the mount point to query user information

Details: select any base station, you can query the mount point, base station coordinates, number of rover, IP and online time

Status Display

Serial number	Mount Point	Service type	Online status	Cumulative online time	Number of rovers	Amount of sent data	Online time
1	base2	RTCM3	online	27hour 1minute ...	1	256730	2023-10-19 16:13:25
2	base1	RTCM3	online	10hour 50minute ...	0	152248	2023-10-19 16:14:41
3	base3	RTCM3	online	4minute 3second	0	152248	2023-10-19 16:14:41

Mount point: base station name

Service type: types of differential data

Online status: base station on-line status

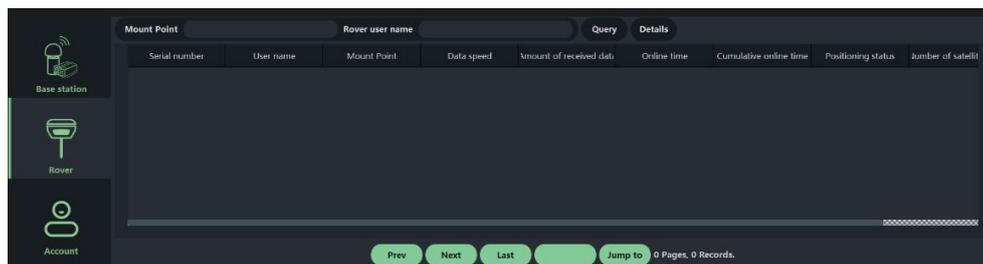
Cumulative online time: total hours of base station online

Number of rovers: total number of rover stations connected to the base station

Amount of sent data: total amount of data sent by the base station

Online time: time when the base station was last online

4.2.2 Rover management



Toolbar

Mount point: the name of the uploaded base station

Rover user name: user name of the connected rover station

Query: enter mount point or rover user name to query information about online rovers

Details: select any rover to query the mount point, base station coordinates, mobile station coordinates, online time and distance from the base station

Status Display

Serial number	User name	Mount Point	Data speed	Amount of received data	Online time	Cumulative online time	Positioning status	Number of satellites used
1	rover4	base2	711	635751	2023-10-19 16:25:30	4hour 20minute 39second	FixedSol	25
2	rover1	base1	1387	1292	2023-10-19 16:33:35	3hour 28minute 20second	FixedSol	46

User name: rover station name

Mount point: name of the connected base station

Data speed: rover station data transmission speed

Amount of received data: total amount of data sent by the base station

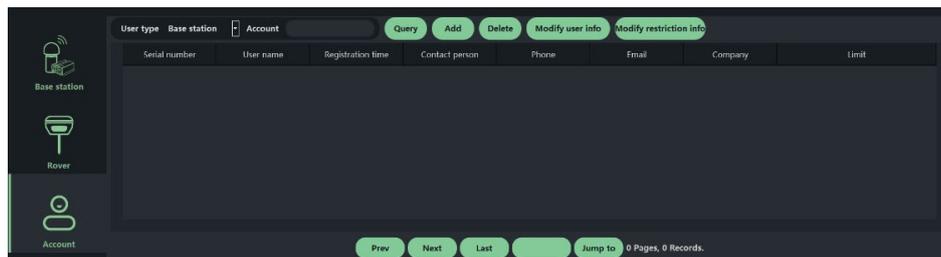
Online time: time when the rover station was last online

Cumulative online time: total hours of rover station online

Positioning status: rover station positioning status

Number of satellites used: the rover station calculates the number of satellites

4.2.3 Account management



Toolbar

User type: select base station, rover, and administrator from the drop-down list

Account: enter the account name you used to register

Query: query user information based on user type and account

Add: add base station, rover and administrator; enter the user name, password, contact person, phone number, email address, and company name

Delete: delete registered user information

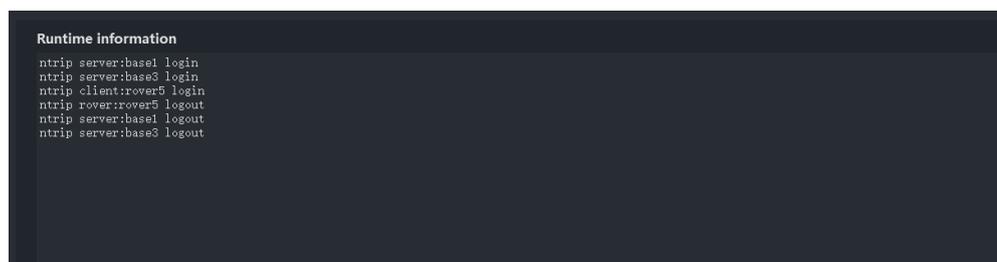
Modify user info: modify the basic information of any user

Modify restriction info: add date restriction, time restriction and region restriction to any user

Serial number	User name	Registration time	Contact person	Phone	Email	Company	Limit
1	rover1	2023-10-10 01:52:02	1	1	1	1	area limit:0.000000,0.000000,0.000000,radus0
2	rover2	2023-10-10 01:52:17	2	2	2	2	remaining duration:5 hour
3	rover3	2023-10-10 01:52:29	3	3	3	3	Date Limit:2023-10-19
4	rover4	2023-10-10 01:52:44	4	4	4	4	
5	rover5	2023-10-10 01:52:57	5	5	5	5	
6	rover6	2023-10-10 01:53:09	6	6	6	6	

According to the user type, serial number, user name, registration time, contact person, phone, email, company and restriction information are displayed

4.3 Information display



Real-time display of base stations, rovers on-line and off-line, etc.

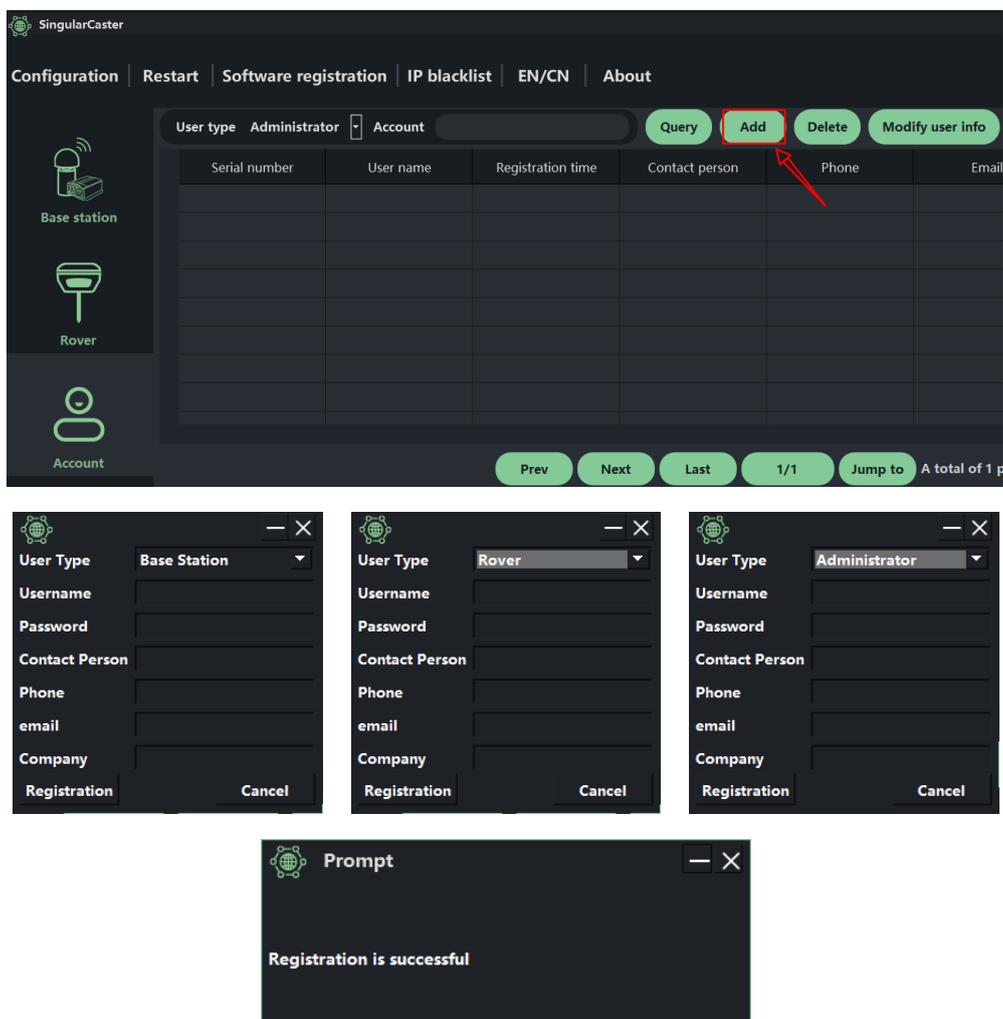
Chapter 5

Data upload

After completing the relevant configurations of the software, we can upload rover and base stations to the software. This section will detail the different ways to upload data

5.1 Create account

Select the account on the management, click the Add button, select the type of user you need to add, fill in the relevant information, click Register, and then close the prompt of successful registration.



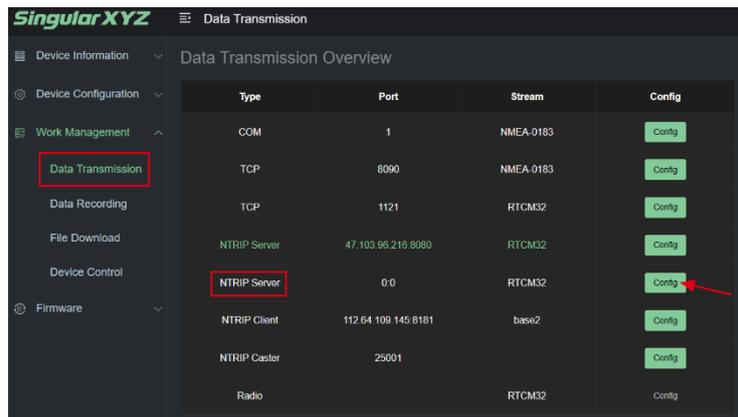
Note: If you set up anonymous access, you don't need to create base and rover account

5.2 Upload data

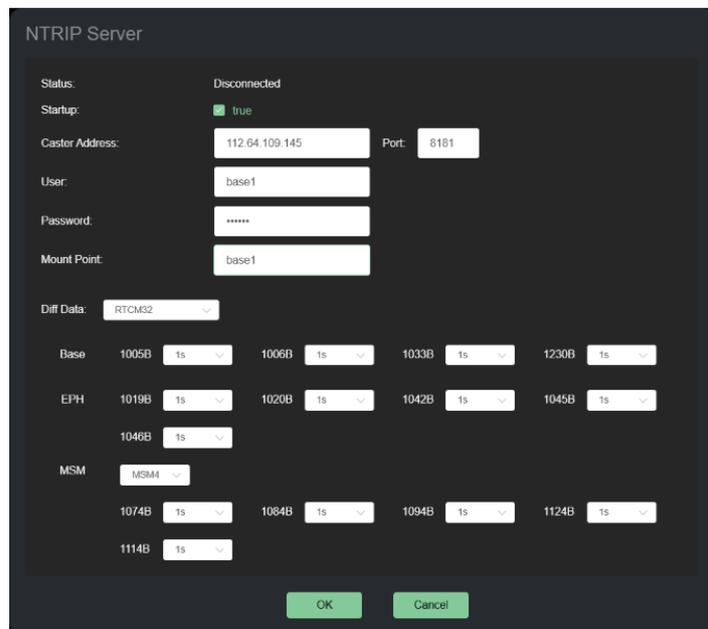
5.2.1 Upload base station data

5.2.1.1 Web interface

- Log in to the web interface of the device (for example SV100), click Data Transmission, select NTRIP Server, and click Config to access the configuration interface

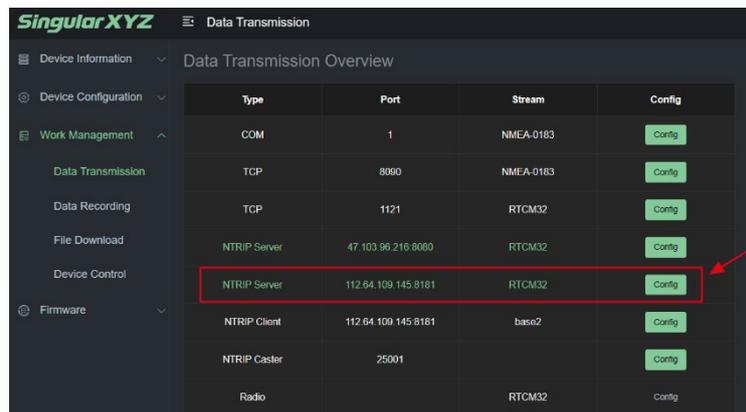


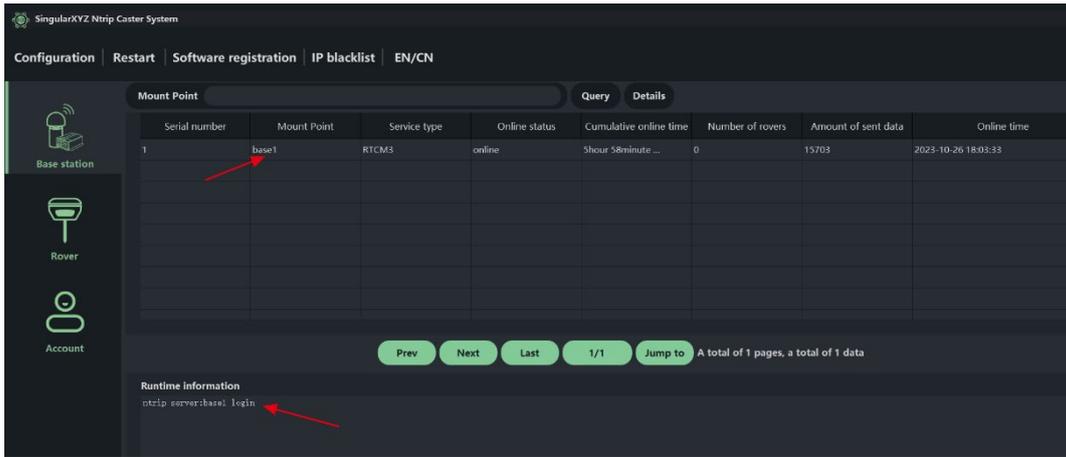
- In the interface, input the IP and Port of the server, the user name of the base station registered in the software, the password and the mount point ,then click true and ok.



Note: The user name and mount point must be the same. If they are different, the upload fails

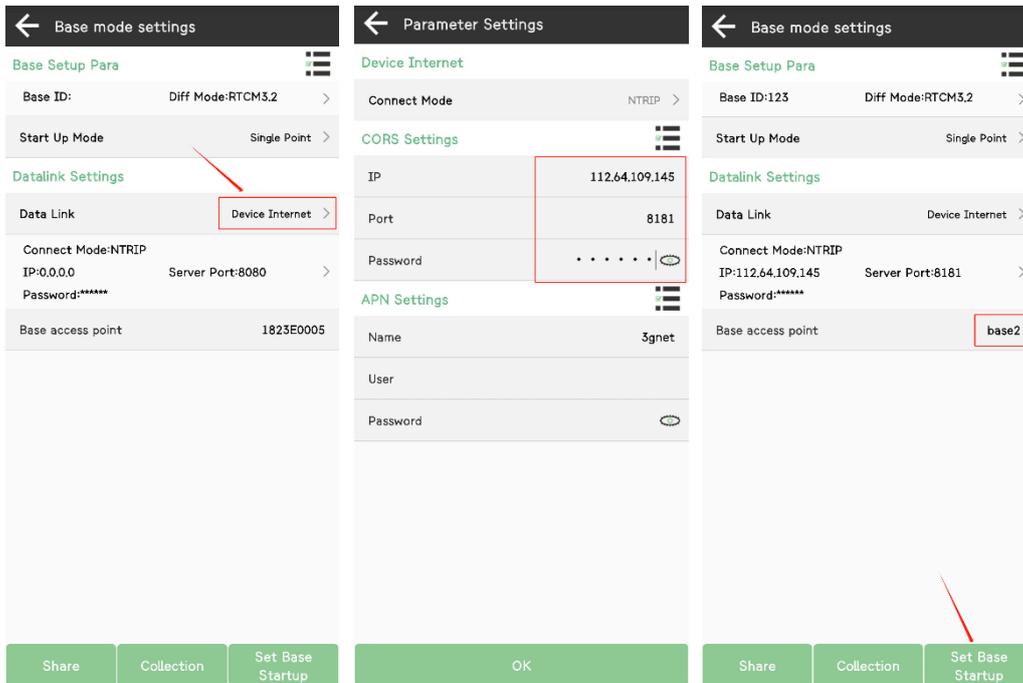
- If the NTRIP Server is green after the configuration, it indicates that the configuration is successful and the singular caster software displays the online information



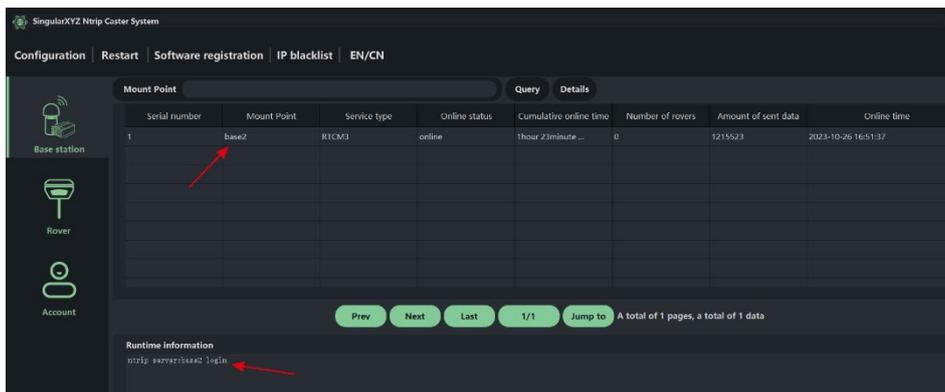


5.2.1.2 SingularPad software

- Open singularpad software, connect the device(for example X1), enter the Base setting interface, select the Device Internet, input the server IP address, Port and password, click ok and input Base access point, then click Set Base Startup

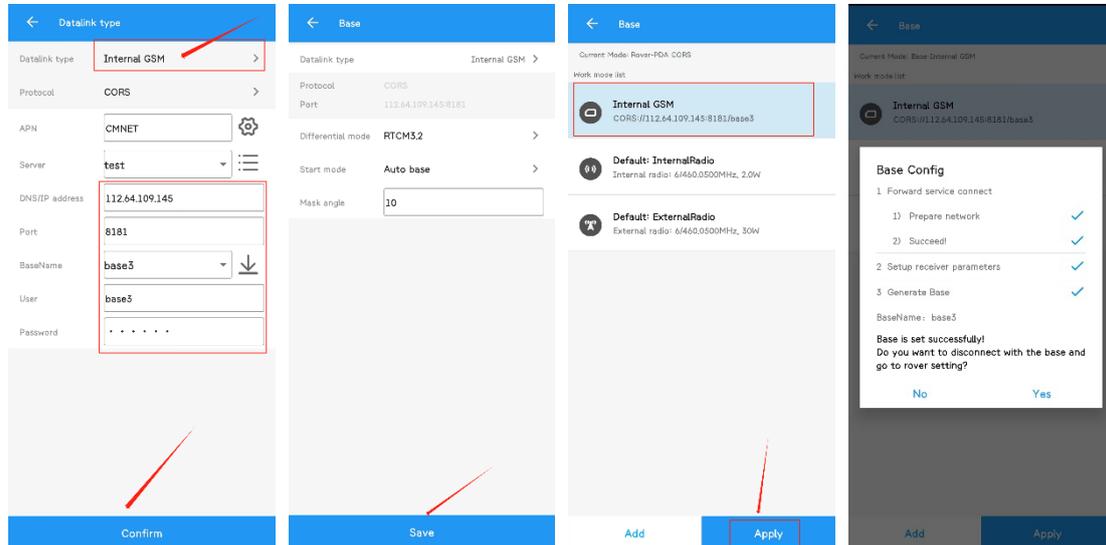


- Online information is available on the Singular caster software

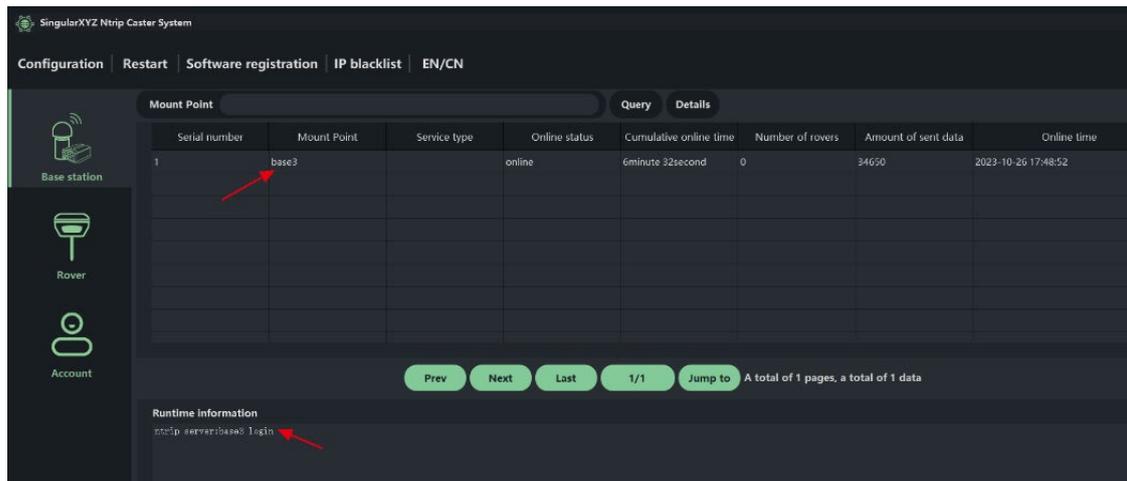


5.2.1.3 SingularSurv software

- Open singularsurv software, connect the device (for example Y1), enter the Base setting interface, select the Internet GSM, input server IP, Port, BaseName, User and Password, click Confirm, Save, and Apply



- Online information is available on the Singular caster software

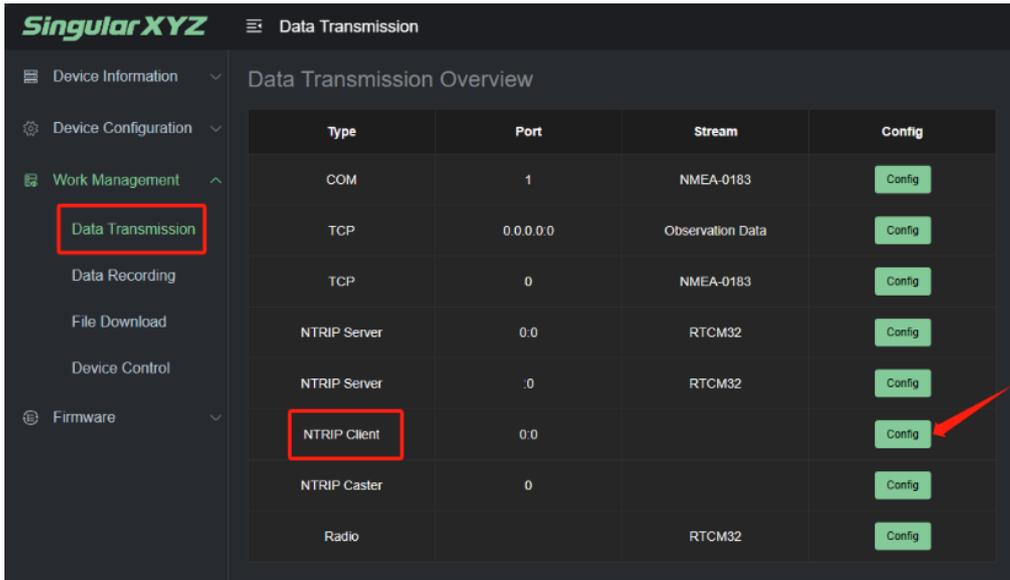


Note: The Singular caster software supports up to 3 base stations online at the same time without registration

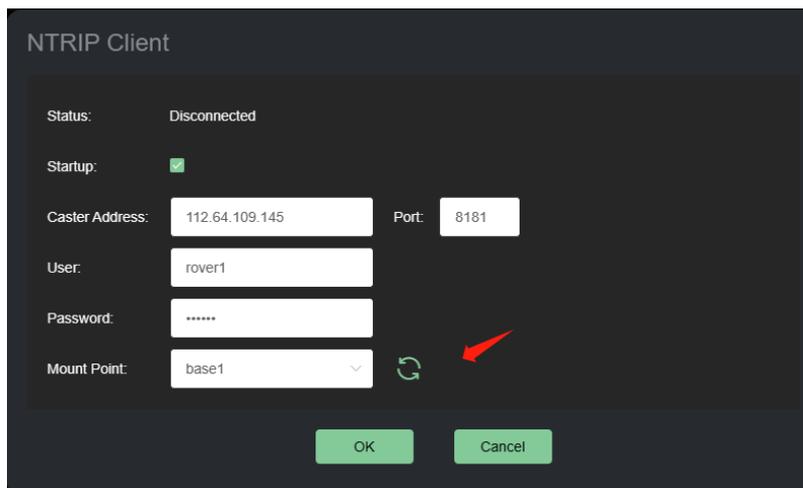
5.2.2 Upload rover station data

5.2.2.1 Web interface

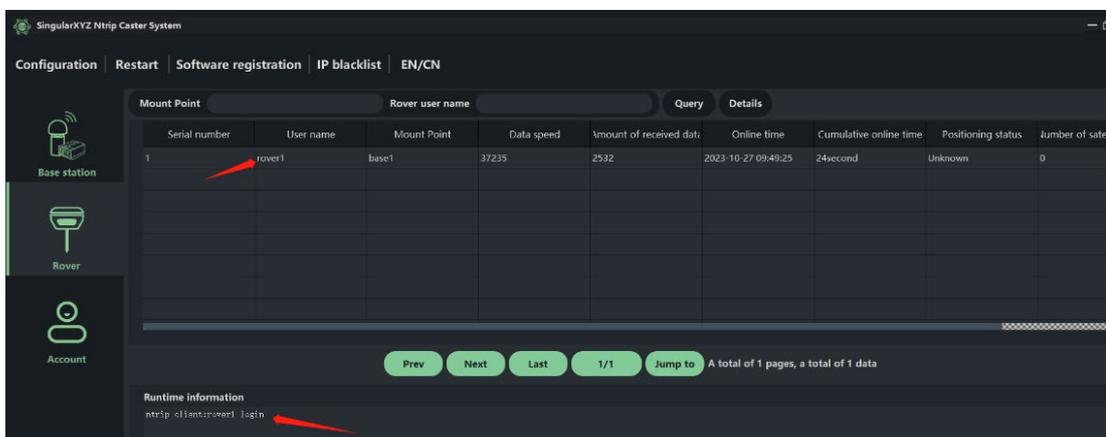
- Log in to the web interface of the device (for example X1), click Data Transfer, select NTRIP Client, and click config to enter the configuration interface

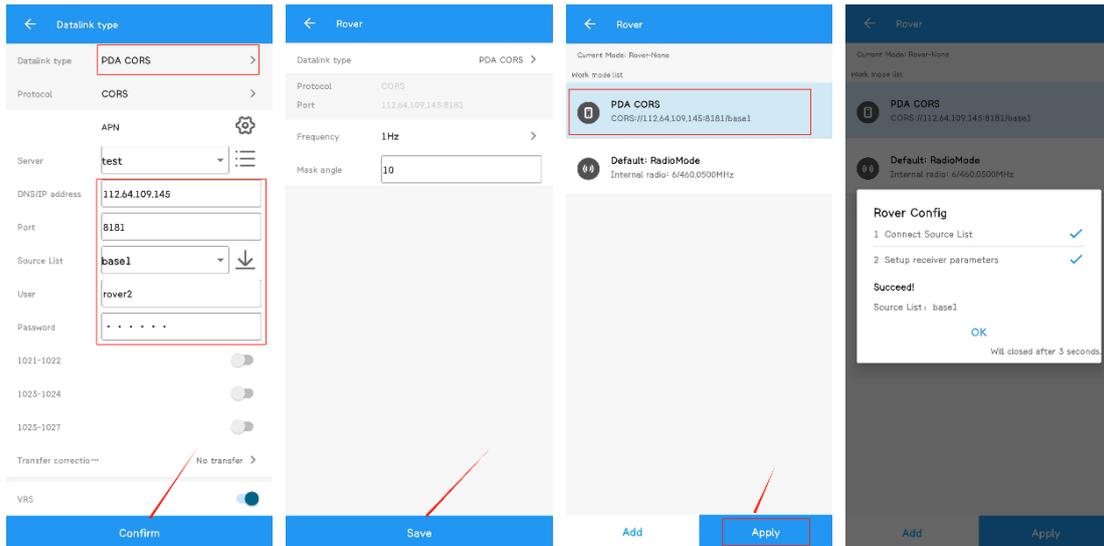


- In the interface, input the IP address and Port of the server, the user name and password of the rover station registered in the software, click the refresh button, obtain and select the mount point, select Startup, and click ok.

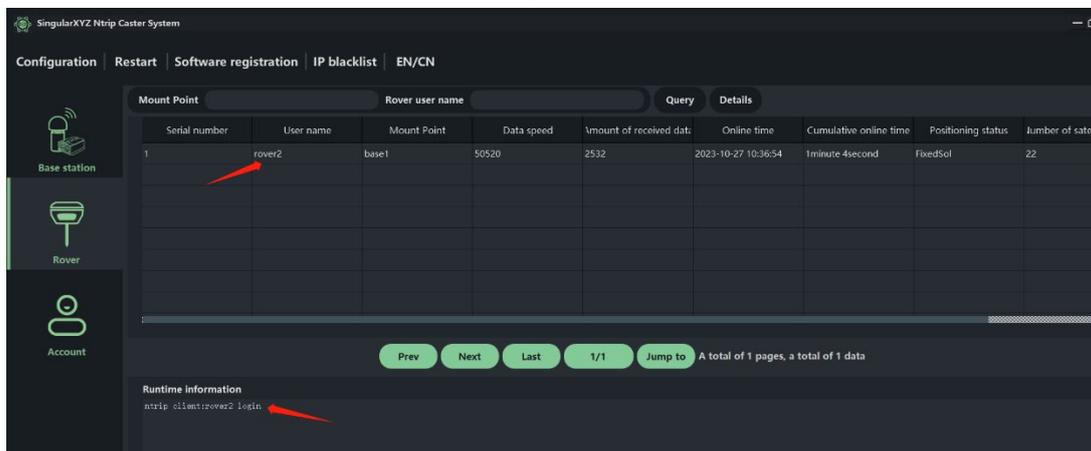


- If the configured NTRIP Server is green, the configuration is successful and the singular caster software displays the online information.





- Online information is available on the Singular caster software



6.1 IP Blacklist

- Click the name of the base station or rover station you want to restrict and click Details to check the IP address

SingularCaster

Configuration | Restart | Software registration | IP blacklist | EN/CN | About

Mount Point: singularxyz | Query | Details

Serial number	Mount Point	Service type	Online status	Cumulative online time	Number of rovers
1	singularxyz	RTCM3	online	5minute 22second	1

Details popup:

- Mount Point: singularxyz
- Lat of base station(B): 31:09:59.518007
- Lon of base station(L): 121:17:23.550793
- Height of base station(H): 34.4835
- Number of rovers: 1
- IP: 127.0.0.1
- Time online: 2024-01-21 14:59:39

Runtime information

```
ntrip server:singularxyz login
ntrip client:test login
```

SingularCaster

Configuration | Restart | Software registration | IP blacklist | EN/CN | About

Mount Point: singularxyz | Rover user name: test | Query | Details

Serial number	User name	Mount Point	Data speed	Amount of received data	Online time	Cumulative
1	test	singularxyz	11.525KB/S	203.858KB	2024-01-21 15:03:30	2minute 4

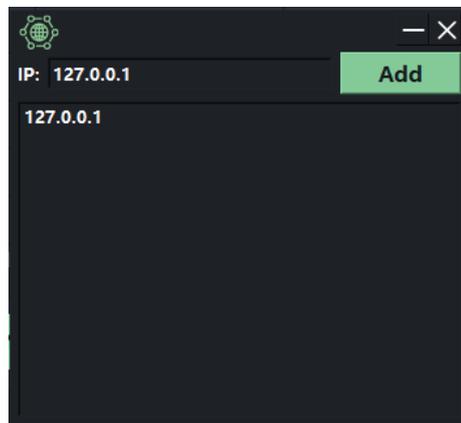
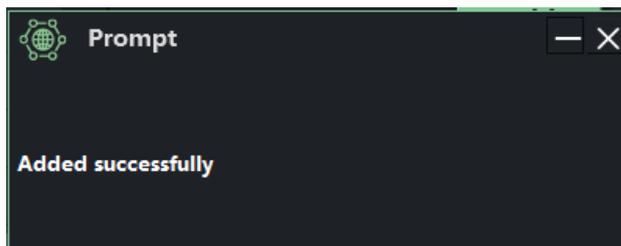
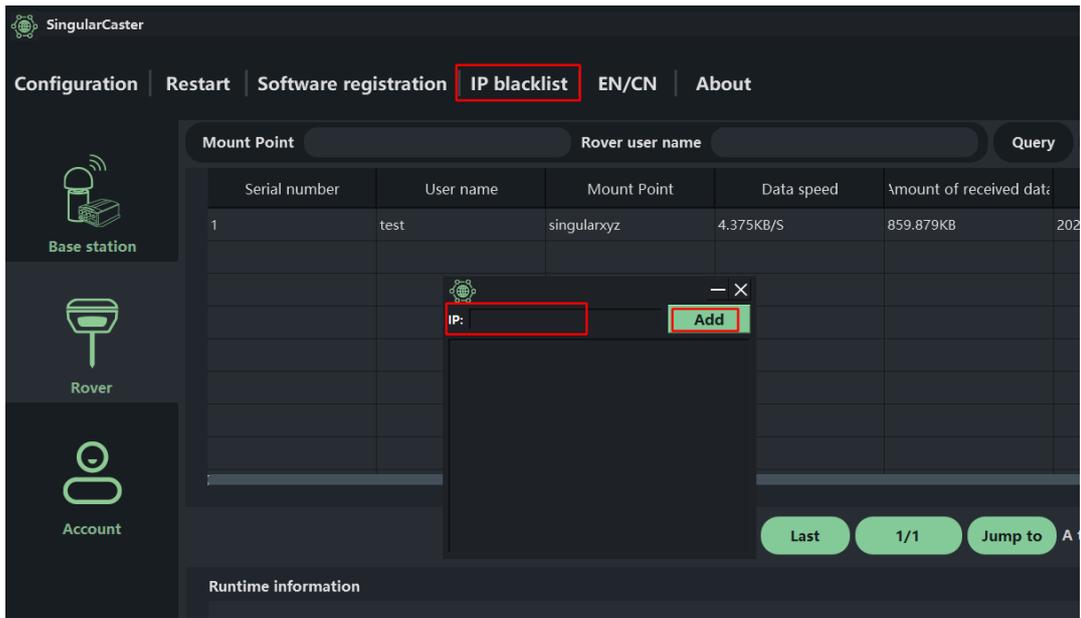
Details popup:

- Mount Point: singularxyz
- Lon of base station(B): 31:09:59.518007
- Lat of base station(L): 121:17:23.550793
- Height of base station(H): 34.4835
- Lon of rover(B): 1:00:0.000000
- Lat of rover(L): 1:00:0.000000
- Time online: 2024-01-21 15:03:30
- Distance from base station: 12814256
- IP Address: 127.0.0.1

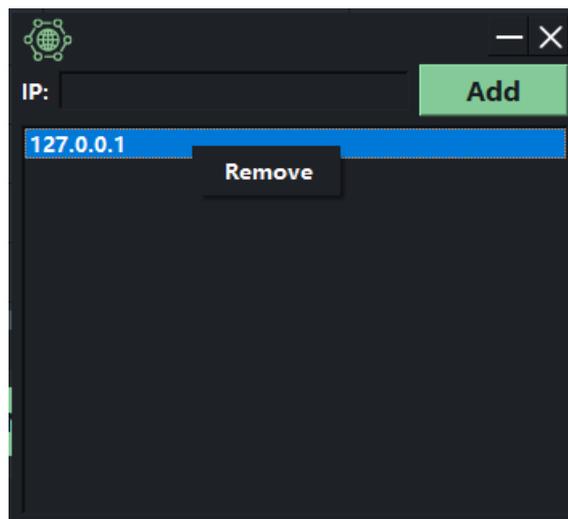
Runtime information

```
ntrip server:singularxyz login
ntrip client:test login
```

- Click the IP blacklist in the toolbar, fill in the IP, click Add, close the Added Successfully prompt interface, you will see the added ip address below. After successfully added, devices using this IP are taken offline and not allowed to upload data to caster software



Tip: You can also remove IP by selecting it, right-clicking and selecting Remove.

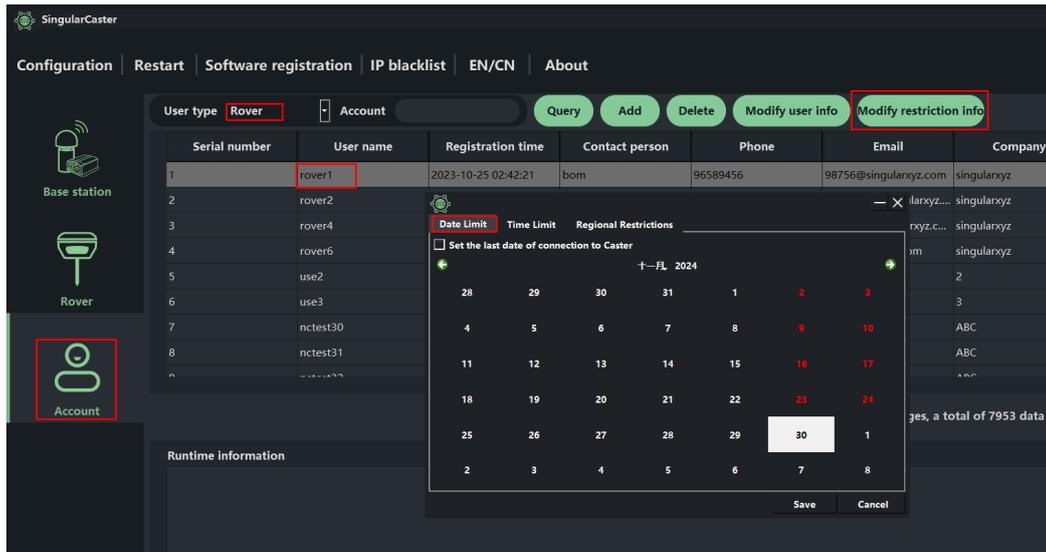


6.2 Rover station restrictions

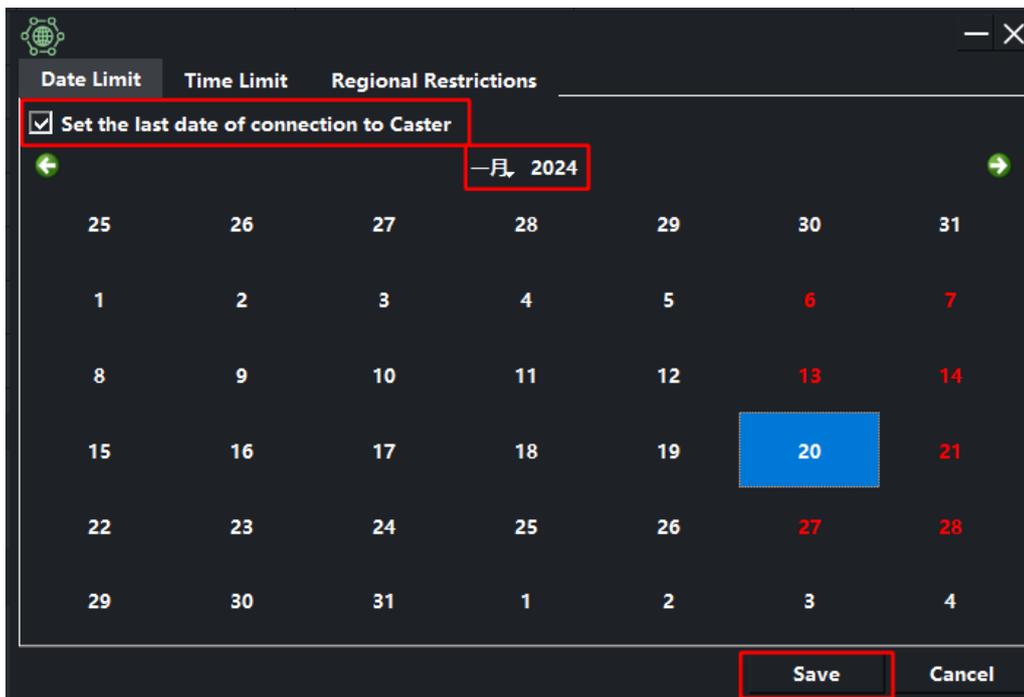
6.2.1 Data limit

This function indicates that the rover station exceeds the limit date and cannot online

- Select the name of the rover station you want to restrict, click Modify restriction info and select Date Limit



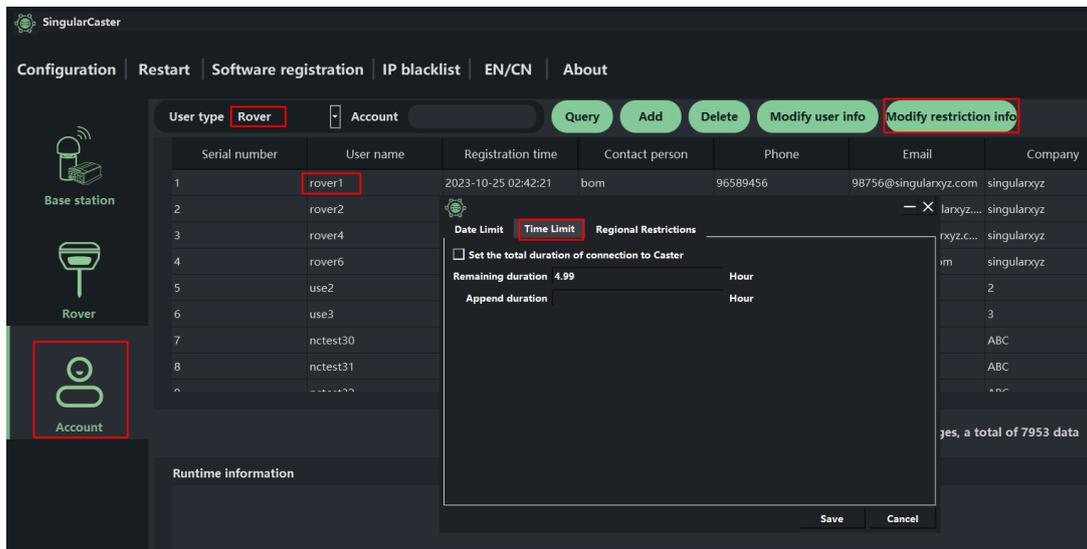
- Tick the box in front of Set the last date of connection to Caster, select a limited date below, and click Save



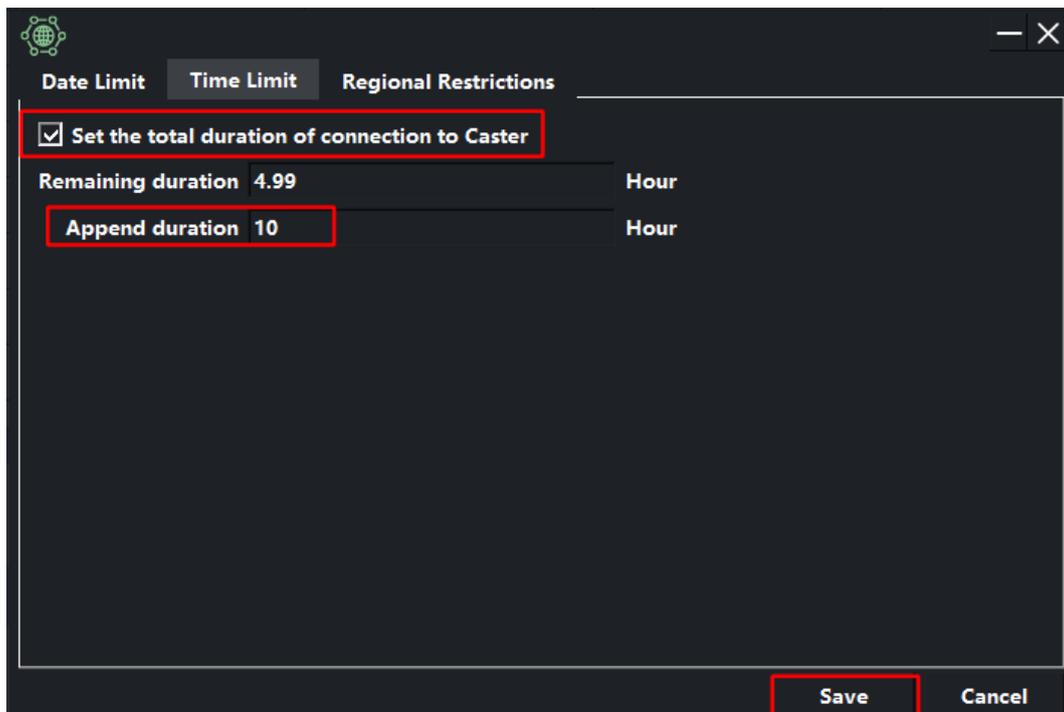
6.2.2 Time limit

This function indicates that the total online time of the rover station exceeds the set value and cannot online

- Select the name of the rover station you want to restrict, click Modify restriction info and select Time Limit



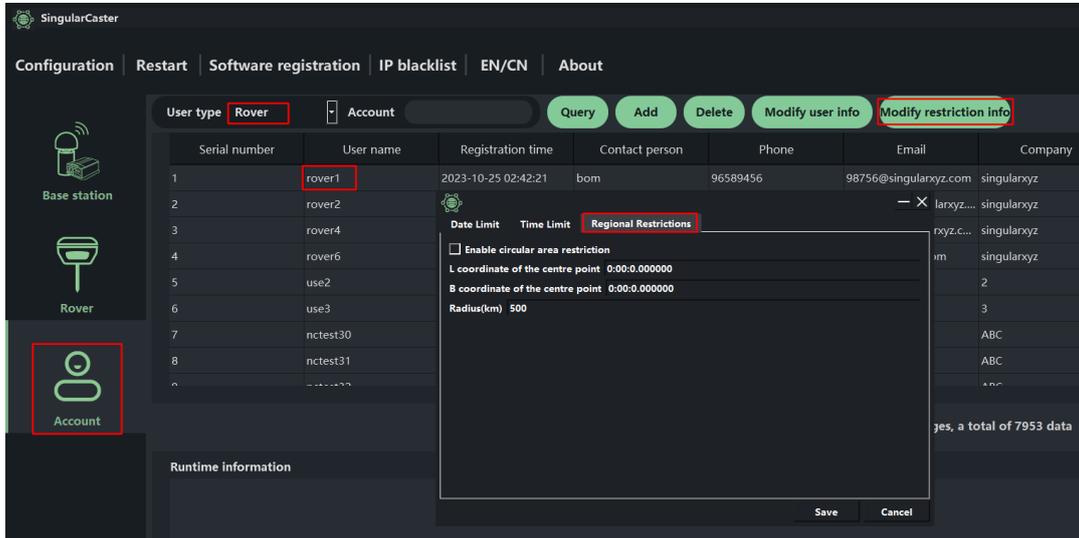
- Tick the box in front of Set the total duration of connection to Caster, and fill in the time to be added after Append duration. Remaining duration shows the total remaining online time of the current rover station, then click Save.



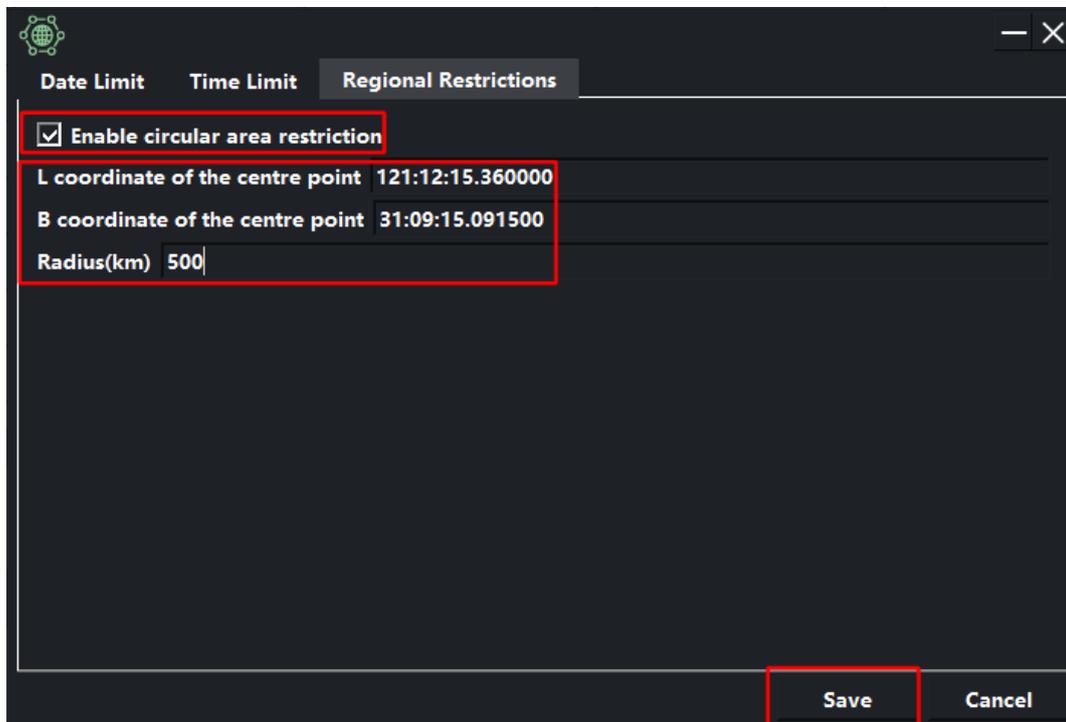
6.2.3 Regional restrictions

This function indicates that the location of the rover station is beyond the range of the set area and cannot online

- Select the name of the rover station you want to restrict, click Modify restriction info and select Regional Restrictions



- Tick the box in front of Enable circular area restriction, fill in the information after L coordinate of the center point, B coordinate of the center point and Radius and click Save



Tips:

You can view the added restrictions on rover in your account

Serial number	User name	Registration time	Contact person	Phone	Email	Company	Limit
1	rover1	2023-10-25 02:42:21	bom	96589456	98756@singularxyz.com	singularxyz	Date Limit:2024-01-20 remaining duration :10.00 hour area limit:2.00:0.000000,2.00:0.000000,radius10
2	rover2	2023-10-25 02:42:50	poul	85463127	8796410@singularxyz.com	singularxyz	
3	rover4	2023-10-25 02:44:11	amy	87966620	amy582@singularxyz.com	singularxyz	
4	rover6	2023-10-25 02:45:28	qin	66610352	qin864@gmail.com	singularxyz	
5	use2	2023-11-08 08:17:28	2	2	2	2	
6	use3	2023-11-08 08:17:37	3	3	3	3	
7	nctest30	2023-10-25 04:53:37	ZHL	1387778956	ABC@126.com	ABC	
8	nctest31	2023-10-25 04:53:37	ZHL	1387778956	ABC@126.com	ABC	

If you want to remove the restrictions on rover stations, you can uncheck the corresponding box in the place where the restrictions are set, and then click Save.

The first screenshot shows a calendar interface for setting the last date of connection to Caster. The date 20 is selected. The 'Save' button is highlighted.

The second screenshot shows the configuration for setting the total duration of connection to Caster. The remaining duration is 4.99 hours. The 'Save' button is highlighted.

The third screenshot shows the configuration for enabling a circular area restriction. The radius is set to 500 km. The 'Save' button is highlighted.