Dear users, functional setting of this software requires some expertise. Therefore, please carefully read and fully understand the instruction before use.

IVMS Server Control Management Server

Installation Manual V2.5

2018/1/15

Thank you for choosing IVMS. Difference between software upgrading may result in features different from those described in the instruction,so Information contained herein is subject to irregular change without prior notice.

Notes

The contents described in this manual may be different from the version you are currently using. If you are unable to resolve a problem using the manual please contact the company's technical support department or supplier. The contents of this manual will be updated from time to time, the Company reserves the right not to give notification of any changes.

Statement

The Company does not assume any responsibility or any liability, loss or risk, direct or indirect outcome from the use or application of any of the contents of this document arising from any inaccuracies or omissions in this document. This manual may contain screen shots used in day-to-day operations, the reporting, person and company names may be fictitious. Any similarity in the name and address of the company or an individual in reality is purely coincidental.

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1. Product Introduction

1.1. Product Functions

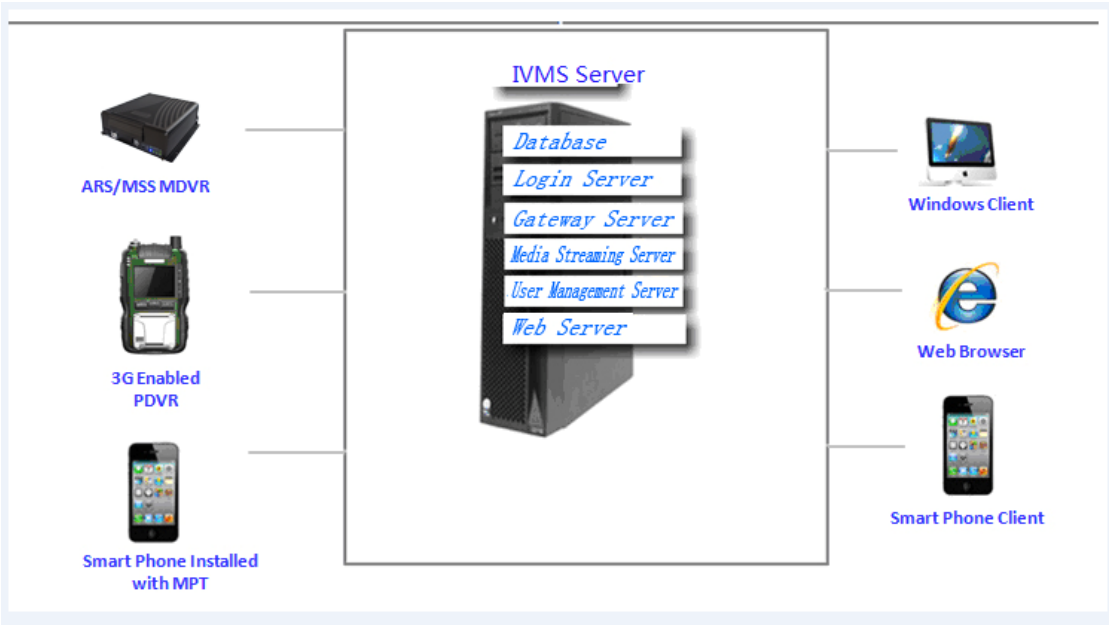
IVMS Server Central Management Server is a Wireless Network for centralized management and monitoring of all types of mobile assets. It is a high-quality, high-efficiency centralized and distributed network management architecture that provides network transmission of video, audio, data and other multimedia information for users to perform real-time remote video monitoring, GPS maps positioning, video storage, vehicle scheduling, recorded vehicle data playback and tracking, voice intercom and alarm warning security work. Other features include remote data download and storage, alarm triggering and remote alerts, remote vehicle management, etc.

1.2 Features Introduction

- The IVMS Server Network can support up to 50,000 vehicles monitoring
- Vehicle information management system
- Quickly locate and track vehicles quickly via GPS information, displays real-time vehicle status display online and statistical interpretation of data collected
- Alarms and Alerts information statistical functions
- Send SMS Alerts
- Real-time remote audio and video surveillance
- Real-time vehicle front end image capture function
- Two-way voice intercom, vehicles broadcast function
- Pan Tilt Zoom (PTZ) remote control function
- Vehicle's historical tracking playback function
- Remote video search, download and playback capabilities
- Depending on the configuration program, the storage server automatically snap pictures, automatic recording, occur after alarm linkage, automatic SMS and mail to notify the user Alarm Linkage (Emergency button alarm, Video signal alarm, Unauthorized unlock alarm, Hard disk-error alarm, Over speed alarm, Motion detection alarm, Long idling time alarm, Temperature alarm, GPS signal lost alarm, IO alarm (custom), Electronic map lock alarm.
- Assets Report Description

- iPHONE and ANDROID mobile smart phone Client Support

1.3 System Architecture



IVMS Server Architecture

The IVMS consists of 10 Functional Servers, namely the :

1. Login Server
2. Gateway Server
3. Media Server
4. User Server
5. Storage Server
6. WIFI Download Server
7. Web server
8. Redis Server
9. MySOL Sserver
10. Data Server

Users have the option of deploying 1 or 2 of the 7 Functional Servers stated above such as, Login Servers, Multiple Gateways Servers, Media Streaming Servers, Multiple Users Management Servers to provide Mobile DVR and Remote Client Services and features as GPS Location, Video and Alarms.

Description of Main Functional Servers

Database Server: Used mainly as Storage Server, Configuration information and Alarm events.

The database server application used is MySQL-5.5.31 - Win32.

Login Server: For registration of various servers and to coordinate and manage registered servers, Assign User Clients, Configure End Management Server, Allocation of Gateway Server for MDVR devices, User Management, Gateway Servers, Server Load Balancing.

Gateway Server: Provide vehicle access. Vehicle Gateway Server is used to establish a communication link between the MDVR device and the server, sending vehicle location and status information via this link.

Media Server: Provides media data forwarding function. Including Audio and Video, Intercom, Remote Monitoring, Remote Capture, Configuration parameters, Search and forwarding Download data.

User Server: Provides Remote Client Access

Storage Server: For storing pictures, video capture and reduce costs

WIFI Download Server: When within the assigned access point range, the WIFI enabled MDVR will automatically upload the video files onto the server.

Web Server: Provides GIS electronic map information, and provide links to the IVMS Backroom Control center, Front End management system login.

2. IVMS Server Deployment

2.1 IVMS Server Minimum Requirements

OS	Microsoft Windows Server 2008 or Higher
CPU	Intel quad-core Xeon, Frequency of not less than 2.33GHz
Network	2 Gigabit Ethernet
RAM	4G or more

Hard Disk	1TB or more
CD Player	DVR-ROM
Others	Support VGA Display Supports normal keyboard, recommended to use USB Keyboard LED Indicator lights for Computer, HDD and other Activities Status

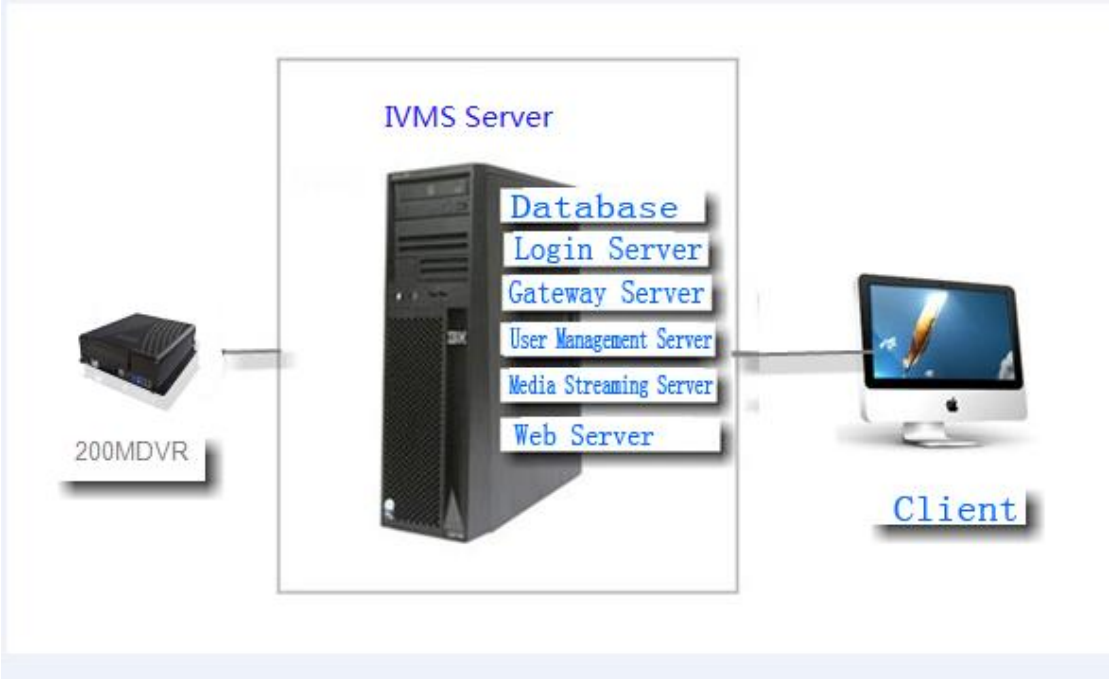
2.2 Media Streaming Server

Performance Specifications	
	Each Streaming Server, distributed, can support up to 256 concurrent Incoming Channels with a bandwidth of 128Mbps.
	Each Video Channel supports up to 6 Clients viewing. Each Channel maximum data rate output is 512Mbps.
	Gigabit Ethernet ports, 20Mbps output stream rate average forwarding delay is less than 5 ms Gigabit Ethernet ports, 100Mbps output stream rate average forwarding delay is less than 40ms. Gigabit Ethernet ports, 512Mbps output stream rate average forwarding delay is less than 200ms.
Video Bandwidth	
	Using CIF video format per Channel video data rate is 320Kbit/second, 256 video channels therefore requires 320 X 256 = 81,920 Kbit bandwidth. NOTE: As the MDVR device in a 3G network environment has network bandwidth limitations. The maximum upload is using CIF resolution video format.

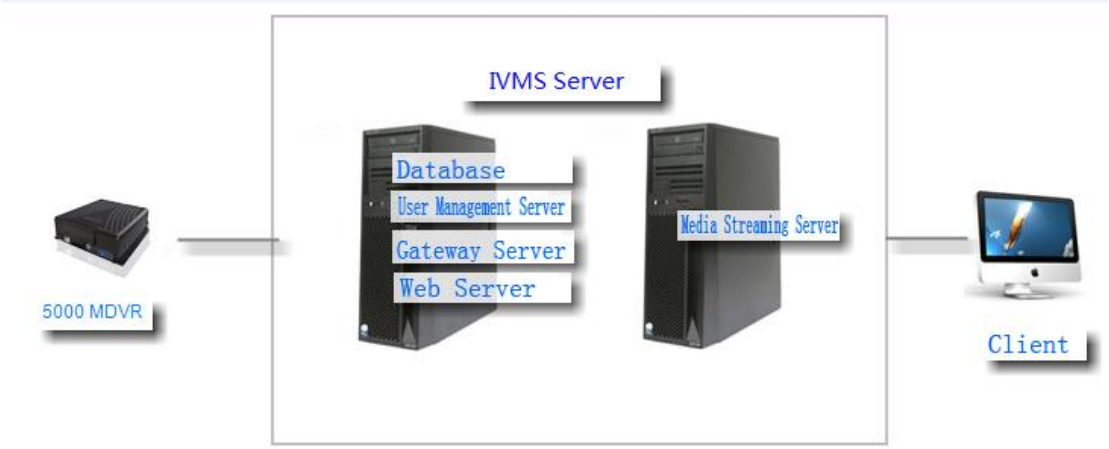
2.3 Examples of System Deployment

This examples are for reference only, using user's hardware, network and IVMS, MDVR installation environment.

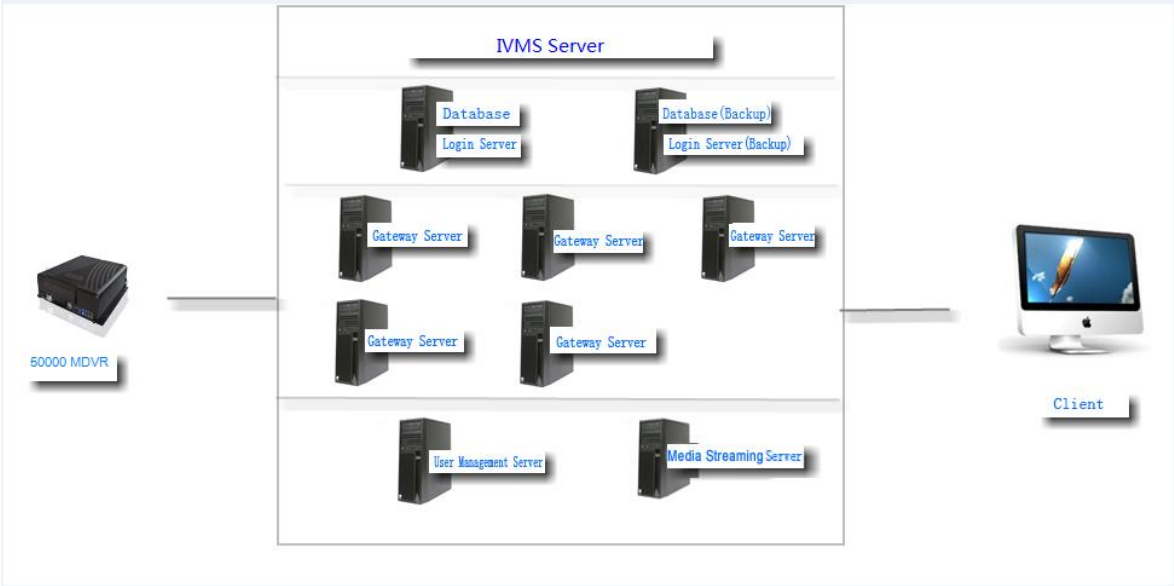
2.3.1 200 Vehicles/Devices



2.3.2 5000 Vehicles/Devices



2.3.3 50000 Vehicles/Devices

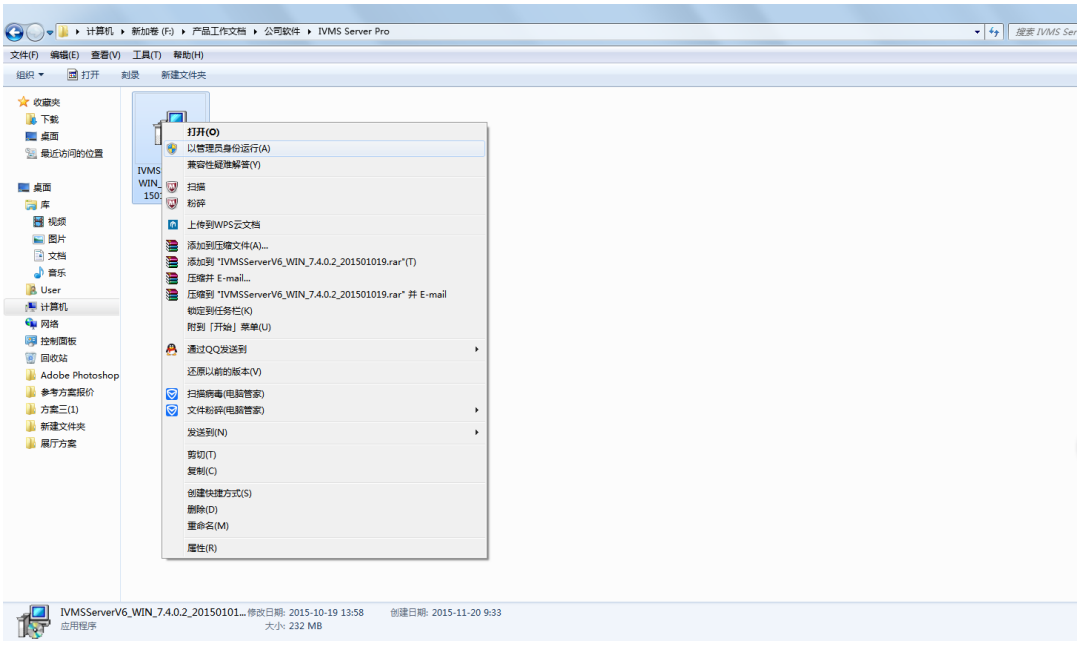


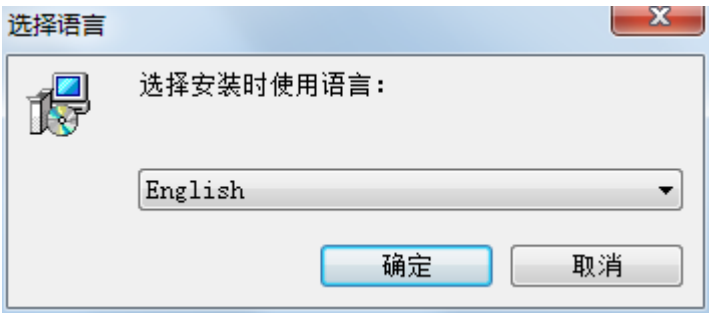
3. Server Installation

Requirements:

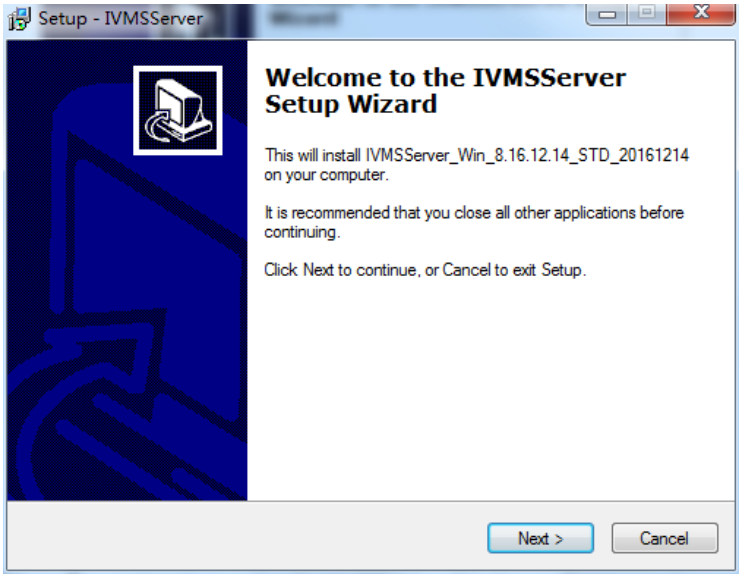
Existing IVMS Server installation can directly install the new version of the IVMS Server.

1. Run IVMS Server software as Administrator



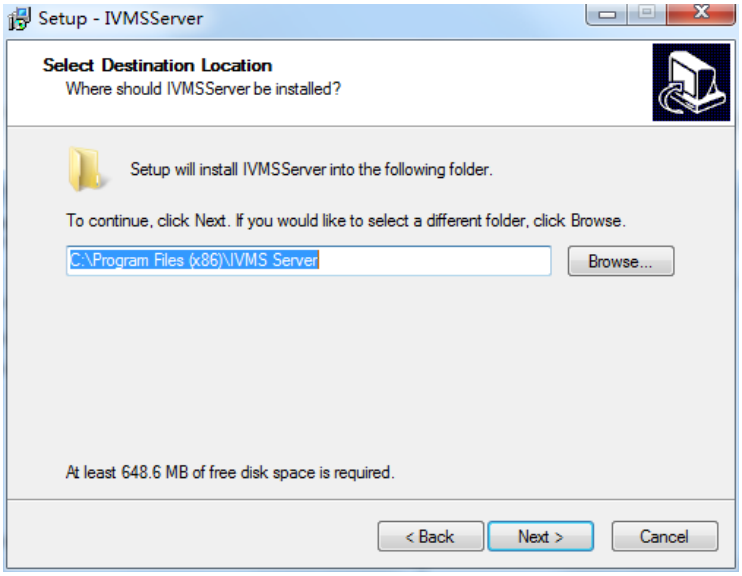


2. After double-click , enter installation dialogue box：



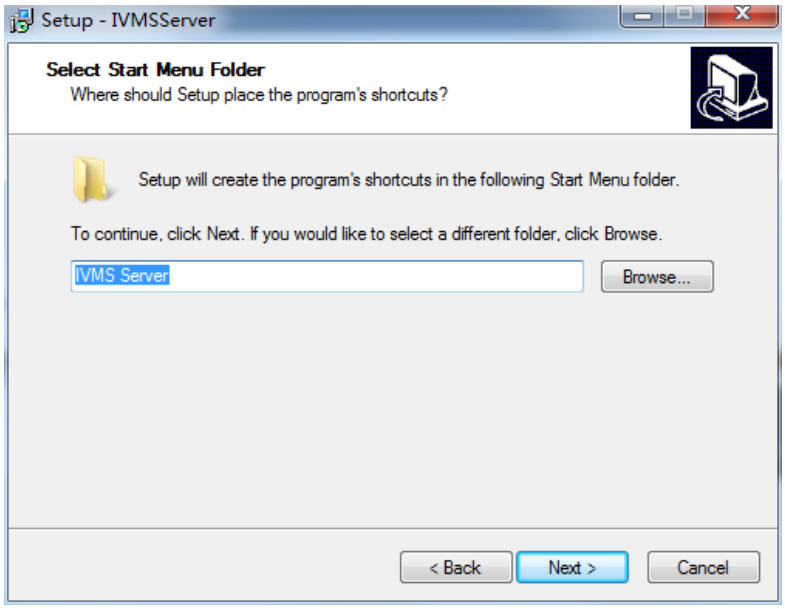
Installation Dialogue Box

3. Click “Next”， enter into the Installation Dialogue Box, as shown below:



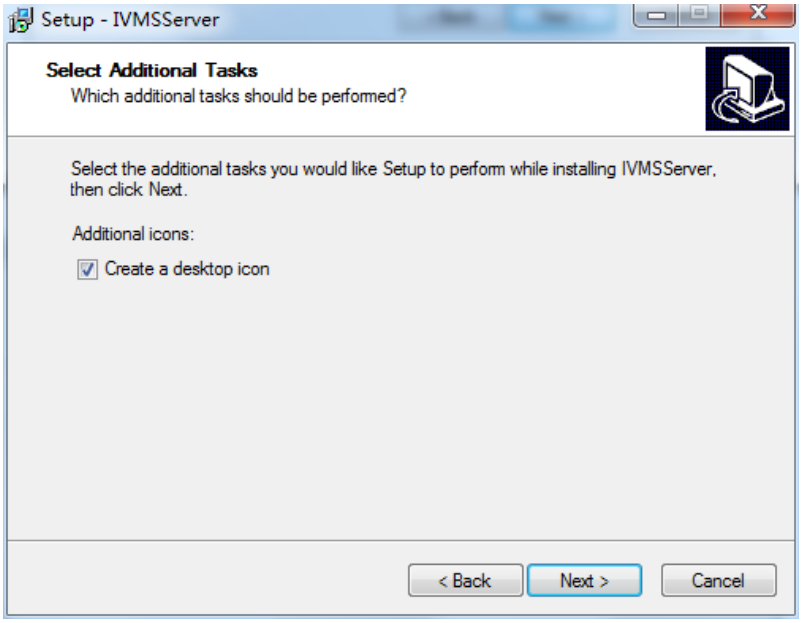
Select Installation Path

4. Specify the target installation path, click "Next" to continue.



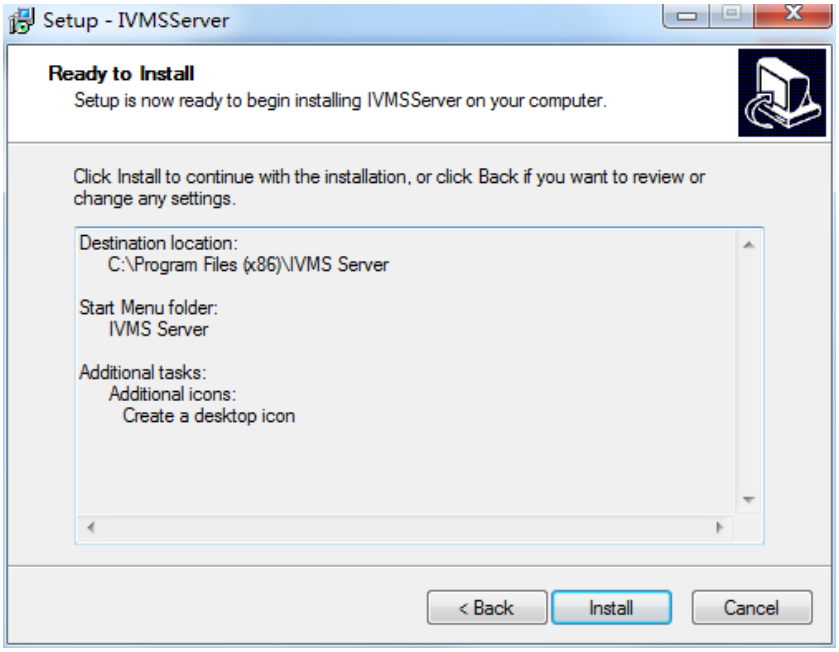
Select the Program location

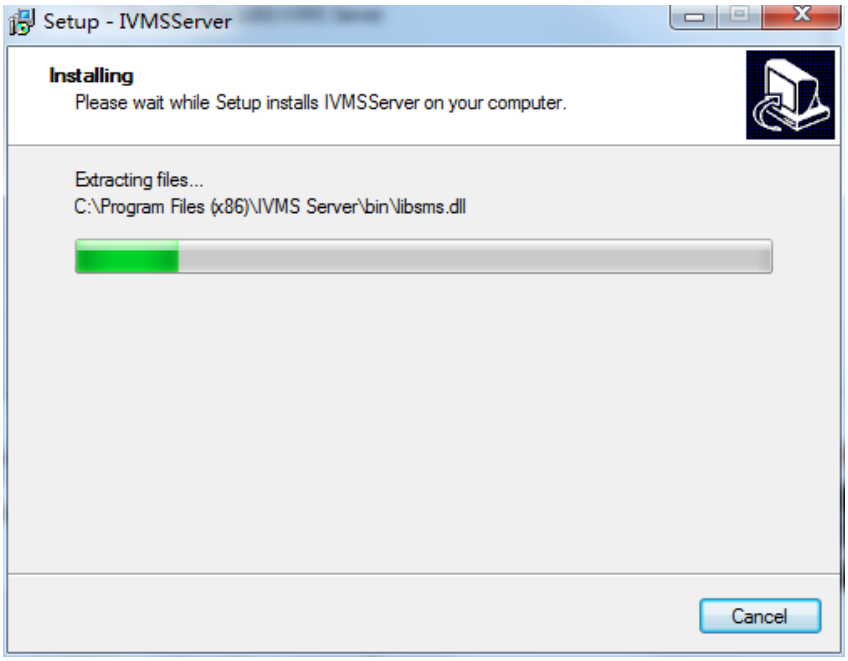
5. Select additional tasks (whether to create a desktop shortcut), and then click "Next" to continue



Choose whether to create a desktop shortcut

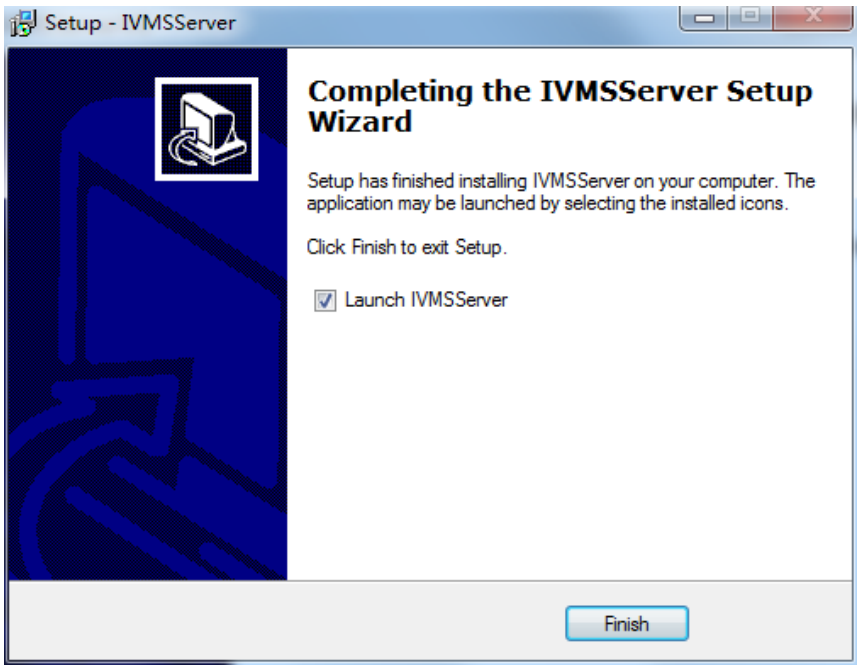
6. Click on “Install” to complete the Installation.

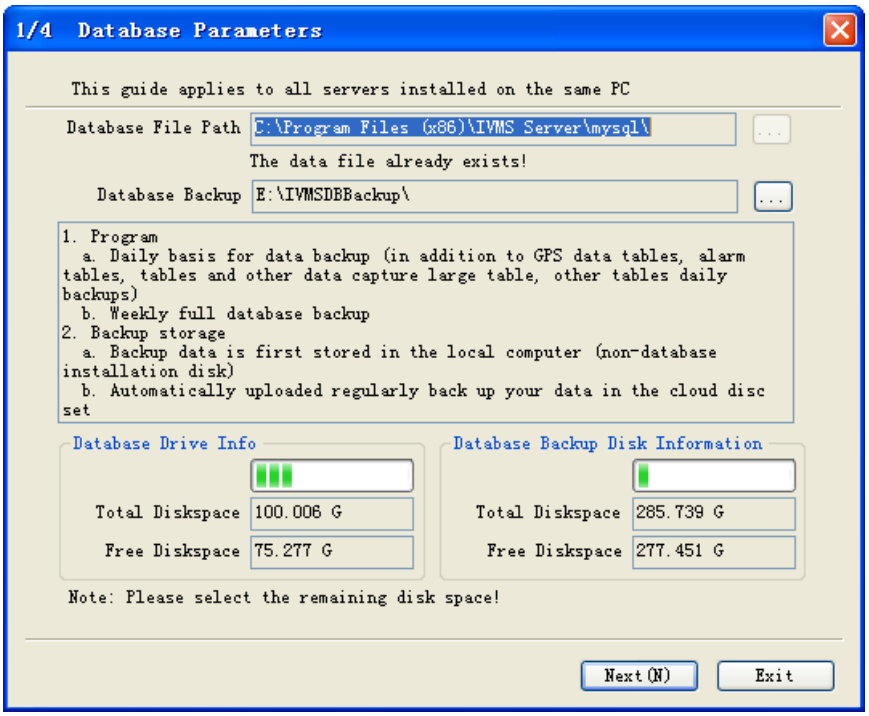




Installation Process

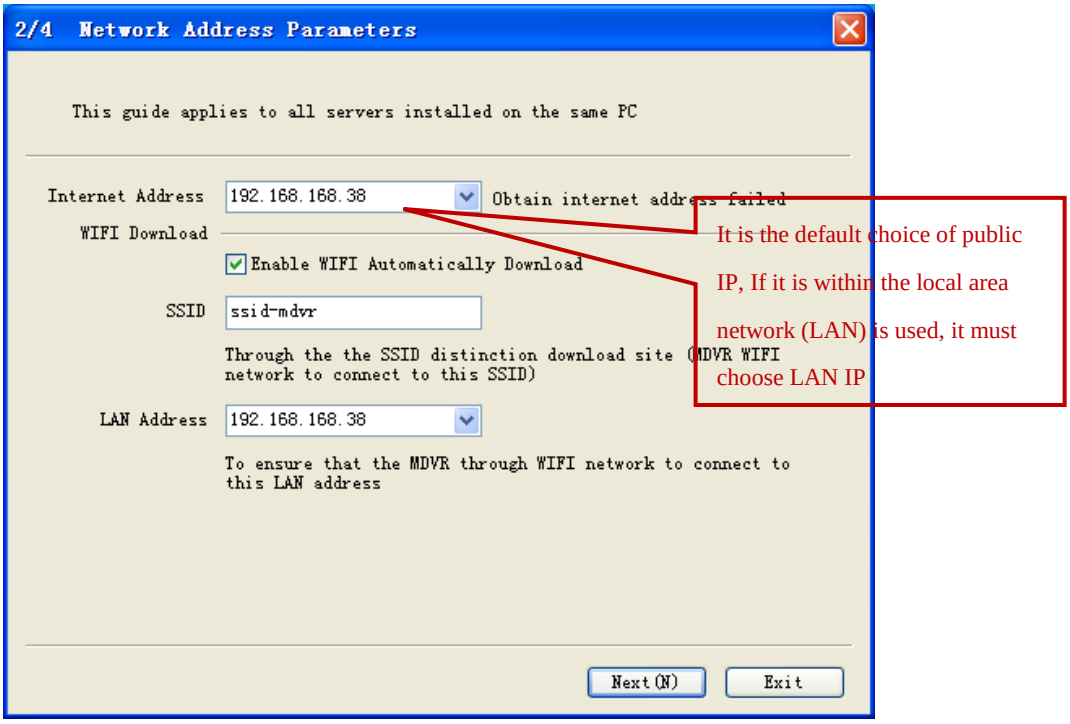
7.Click the "Finish" button, Data Configuration begins after this.





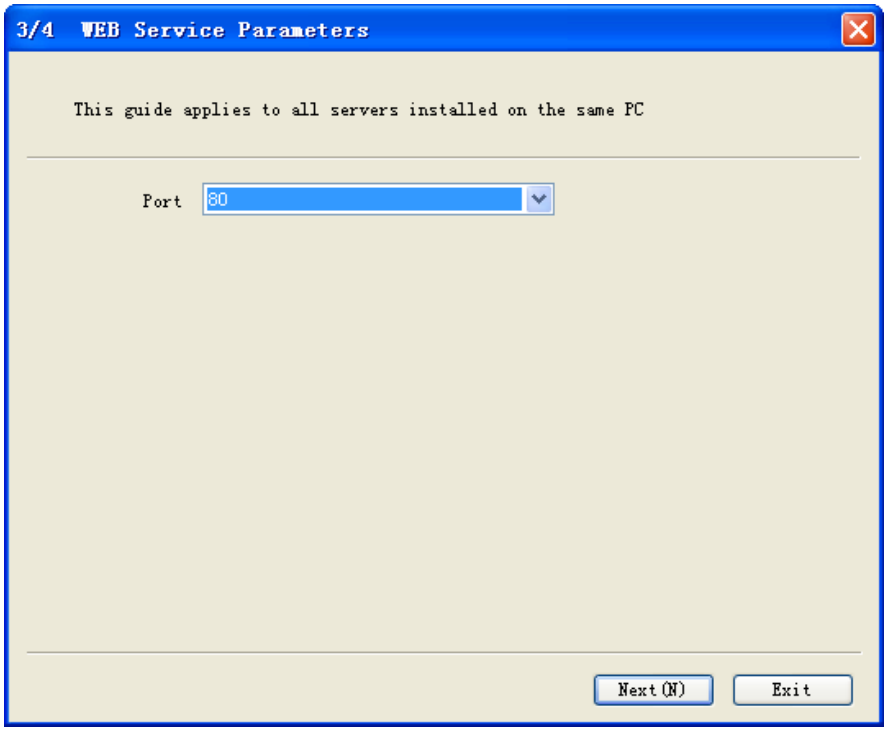
Database Configuration Parameters

8.Click on “Next” to begin Network Address Configuration



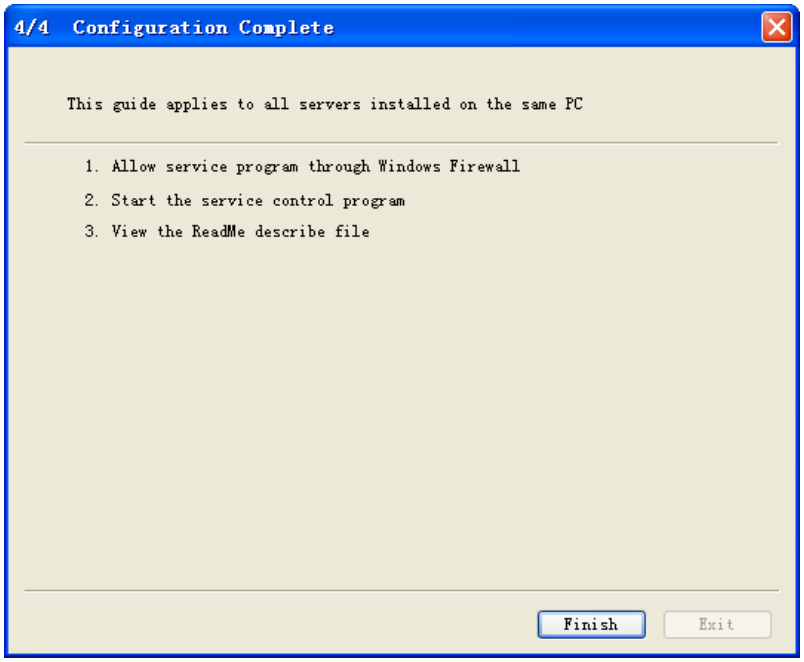
Network Parameter Configuration

9. Click on “Next”to start Web Server Configuration Parameters

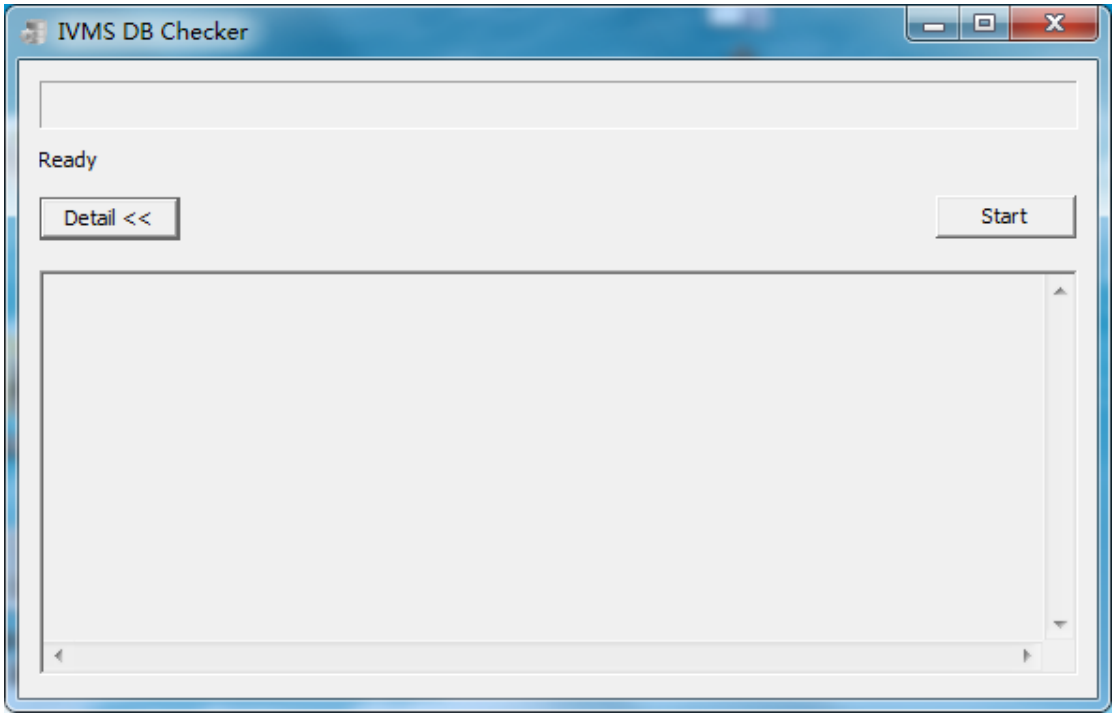


Web Server Port Configuration

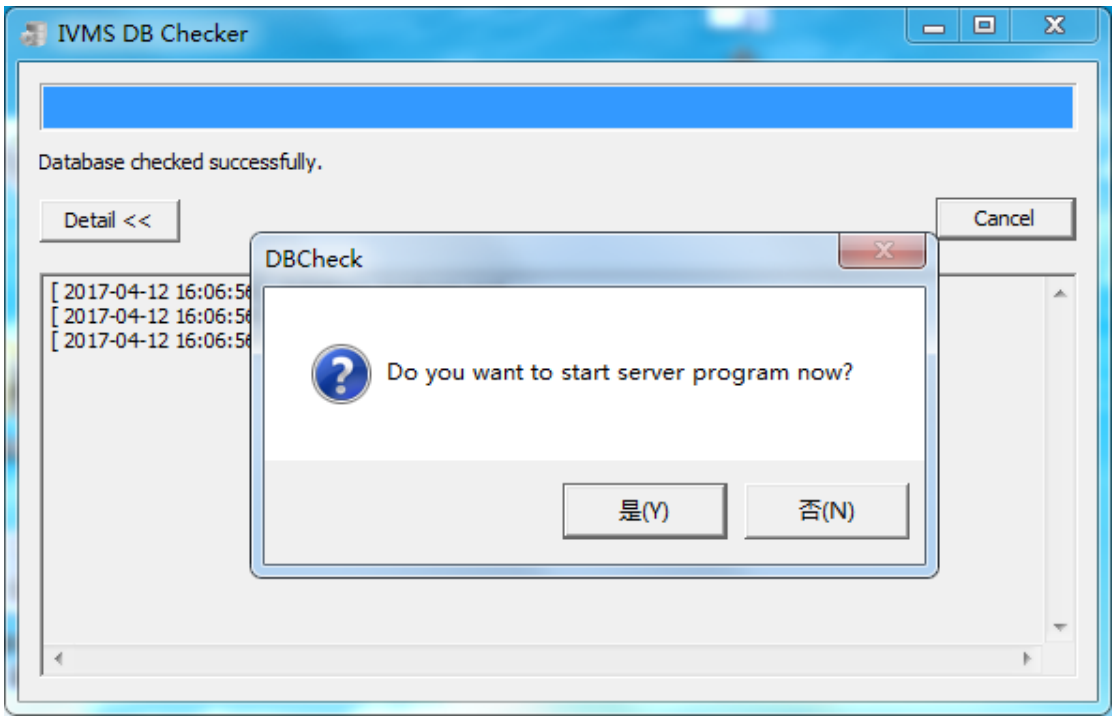
10.Click on “Finish” to activate IVMS Server Server Controller.



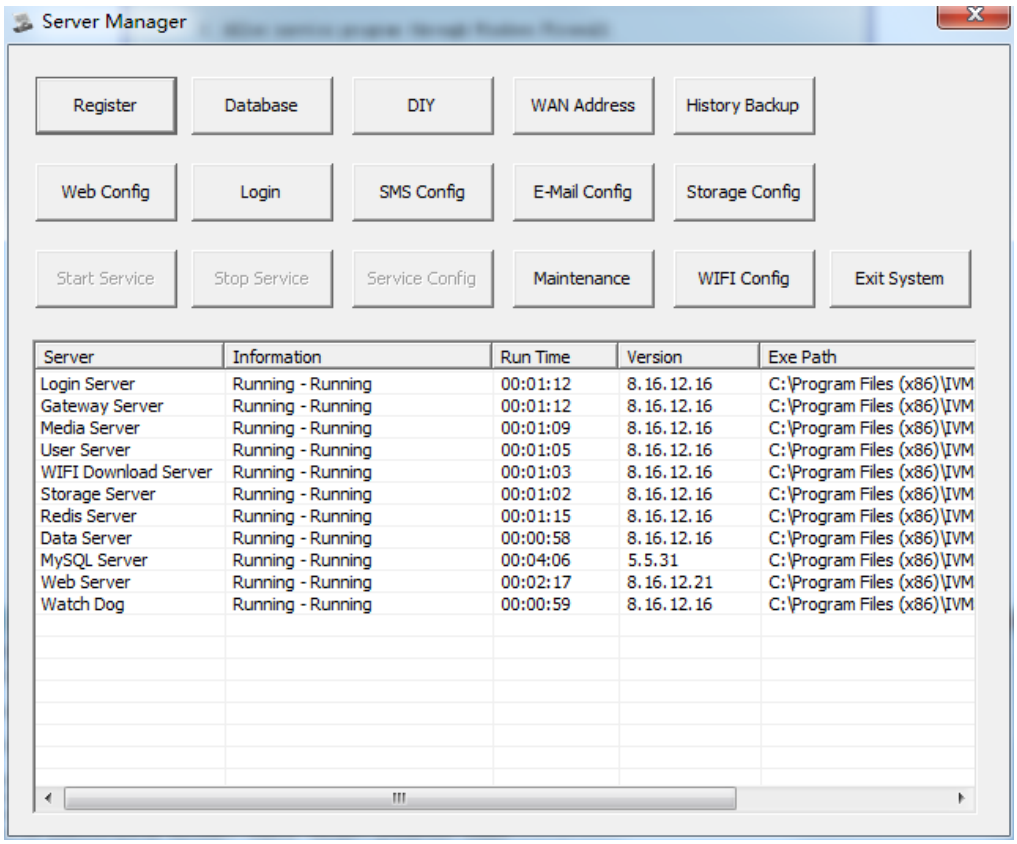
11.Click on “Finish” to start IVMS DB Checker(The latest version have this operation)



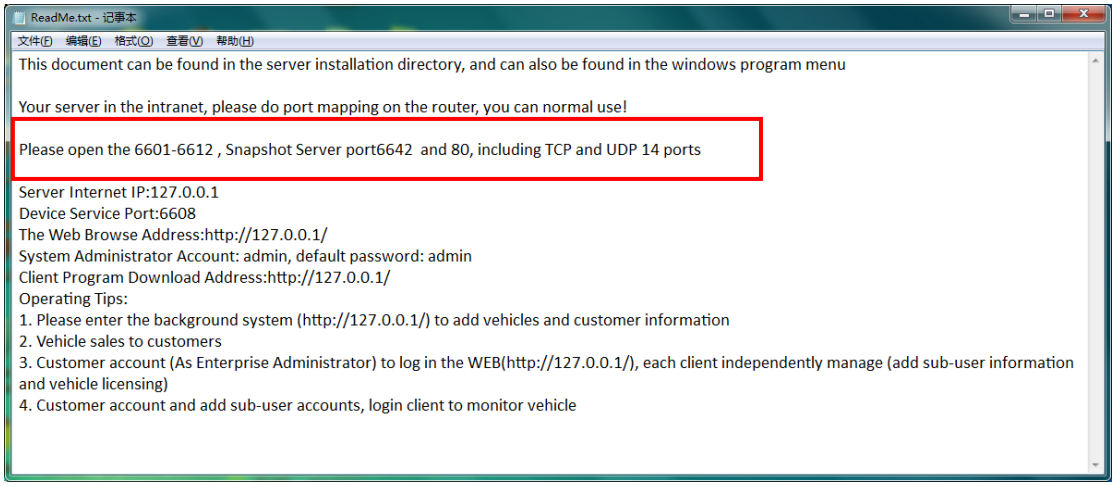
11.Click on “Start” to start IVMS Server.


IVMS DB Checker
Database checked successfully.
Detail <<
Cancel
[2017-04-12 16:06:56
[2017-04-12 16:06:56
[2017-04-12 16:06:56
DBCheck
Do you want to start server program now?
是(Y)
否(N)

12. Click on “Y”


Server Manager
Register
Database
DIY
WAN Address
History Backup
Web Config
Login
SMS Config
E-Mail Config
Storage Config
Start Service
Stop Service
Service Config
Maintenance
WIFI Config
Exit System
Server | Information | Run Time | Version | Exe Path
Login Server | Running - Running | 00:01:12 | 8.16.12.16 | C:\Program Files (x86)\IVM
Gateway Server | Running - Running | 00:01:12 | 8.16.12.16 | C:\Program Files (x86)\IVM
Media Server | Running - Running | 00:01:09 | 8.16.12.16 | C:\Program Files (x86)\IVM
User Server | Running - Running | 00:01:05 | 8.16.12.16 | C:\Program Files (x86)\IVM
WIFI Download Server | Running - Running | 00:01:03 | 8.16.12.16 | C:\Program Files (x86)\IVM
Storage Server | Running - Running | 00:01:02 | 8.16.12.16 | C:\Program Files (x86)\IVM
Redis Server | Running - Running | 00:01:15 | 8.16.12.16 | C:\Program Files (x86)\IVM
Data Server | Running - Running | 00:00:58 | 8.16.12.16 | C:\Program Files (x86)\IVM
MySQL Server | Running - Running | 00:04:06 | 5.5.31 | C:\Program Files (x86)\IVM
Web Server | Running - Running | 00:02:17 | 8.16.12.21 | C:\Program Files (x86)\IVM
Watch Dog | Running - Running | 00:00:59 | 8.16.12.16 | C:\Program Files (x86)\IVM

Note: Open these port in router and firewall, Or the server can not work with client and device well.



Configuration Complete

4. Server Configuration

4.1 IVMS Server Port Description

IVMS Server default port are as follows for Mobile DVR and Client services. If the Server is behind a firewall, please ensure the following ports are opened in order for the appropriate services are made available for the Mobile DVR and Client Users.

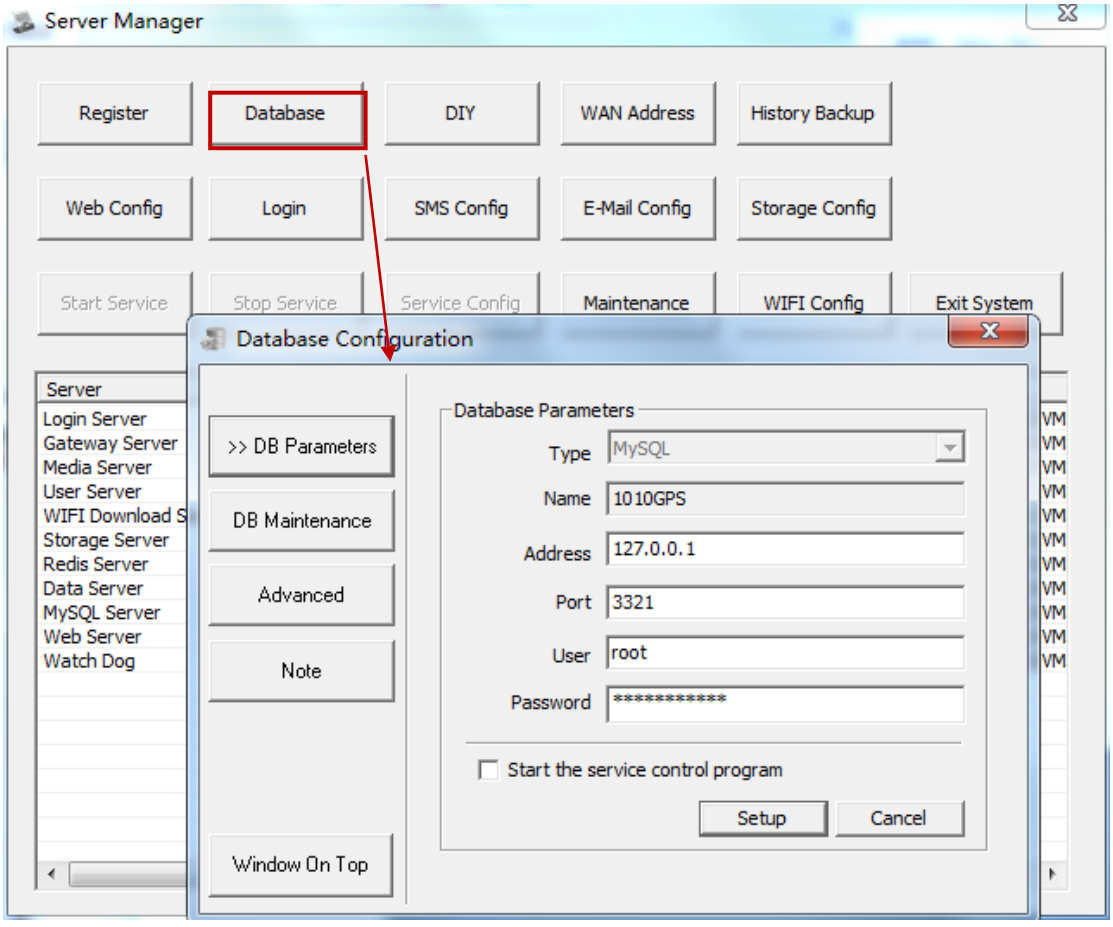
Server Name	Server Port	Description	Remarks
Login Server	6605, 6606	6606 Device Service Port 6605 Client Service Port	6606 - UDP 6605 - TCP and UDP
Gateway Server	6607, 6608	6608 Device Service Port 6607 Client Service Port	6608 - TCP 6607 – TCP and UDP
Media Streaming Server	6602, 6604	6602 Device Service Port 6604 Client Service Port	6602 - TCP 6604–TCP and UDP
User Management Server	6603	6603 Client Service Port	6603 –TCP and UDP
WIFI Download	6609 6610	6610 Device Service Port	6610 - TCP

Server		6609 Client Service Port	6609–TCP and UDP
Storage Server	6611 6612	6612 Device Service Port 6611 Client Service Port	6612 - TCP 6611–TCP and UDP
Snapshot Server	6642	6642 Device Service Port	6642 - TCP
WEB Server	80/88/8080/ 8088	80/88/8080/ 8088 Client Service Port	80/88/8080/ 8088 - TCP

4.2 IVMS Server System Configuration

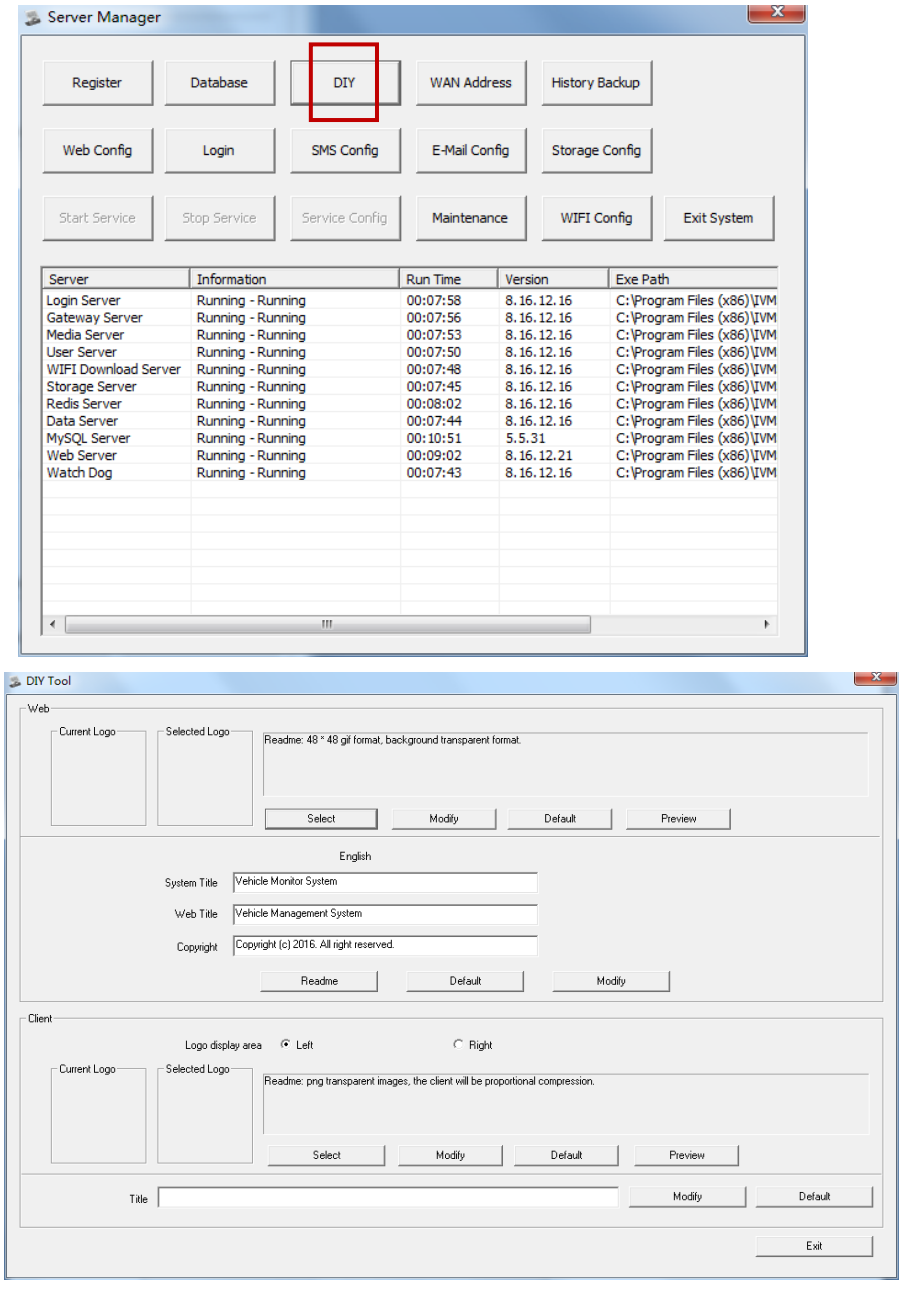
4.2.1 Database view and configure

Note: The database configuration, installation package has already been configured for this version of IVMS Server.



Database Configuration Information

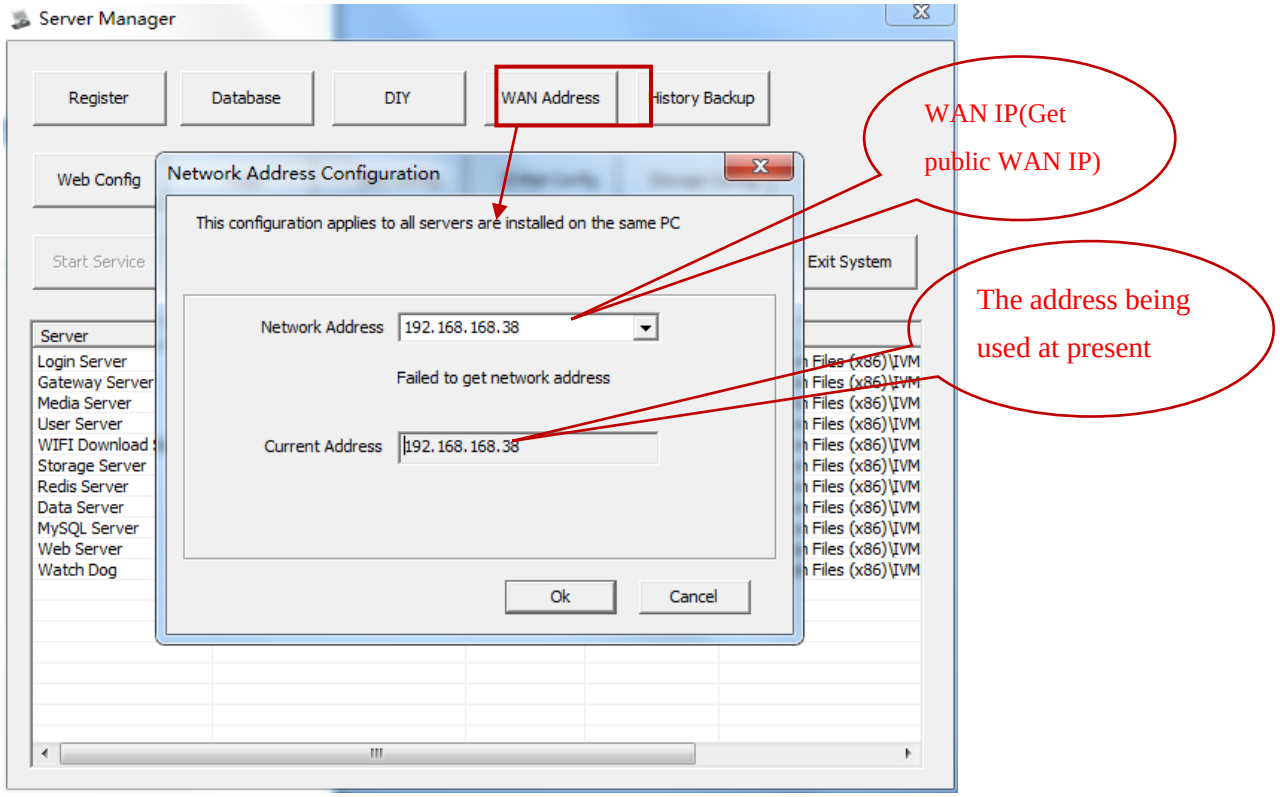
4.2.2 DIY: logo and title customization



DIY configure

4.2.3 IVMS Server modify network IP address

1. Installation configuration LAN, and now would like to replace the public network, directly at the following figure can be modified, and vice versa.



modify network ip address

4.2.4 History backup

Database：

0：Refer to save all data.

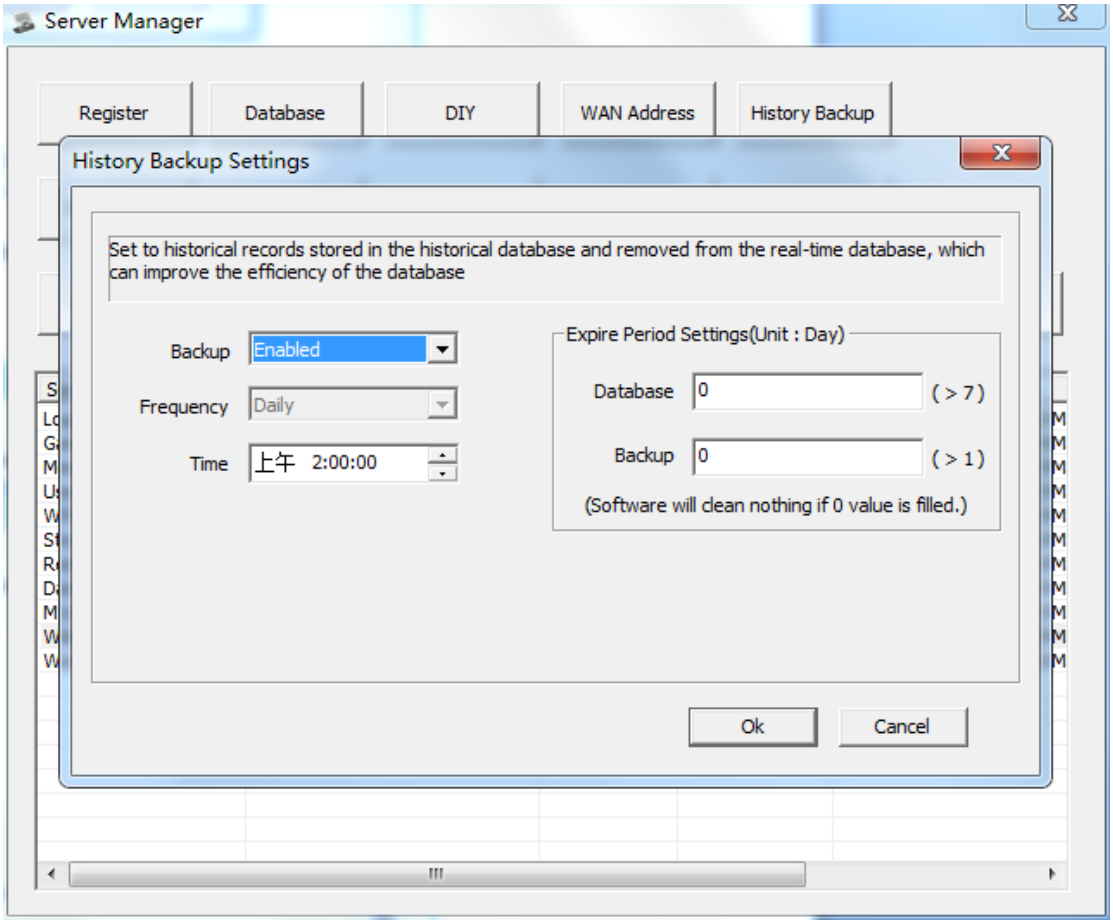
>7: Indicates that the records in the database are kept in recent days. The value must be greater than 7. In addition to 0, The 0 means no cleanup. For example: fill in 30, that retained the last 30 days of data in the database.

Backup:

The value must be greater than 1. The 0 means no cleanup.

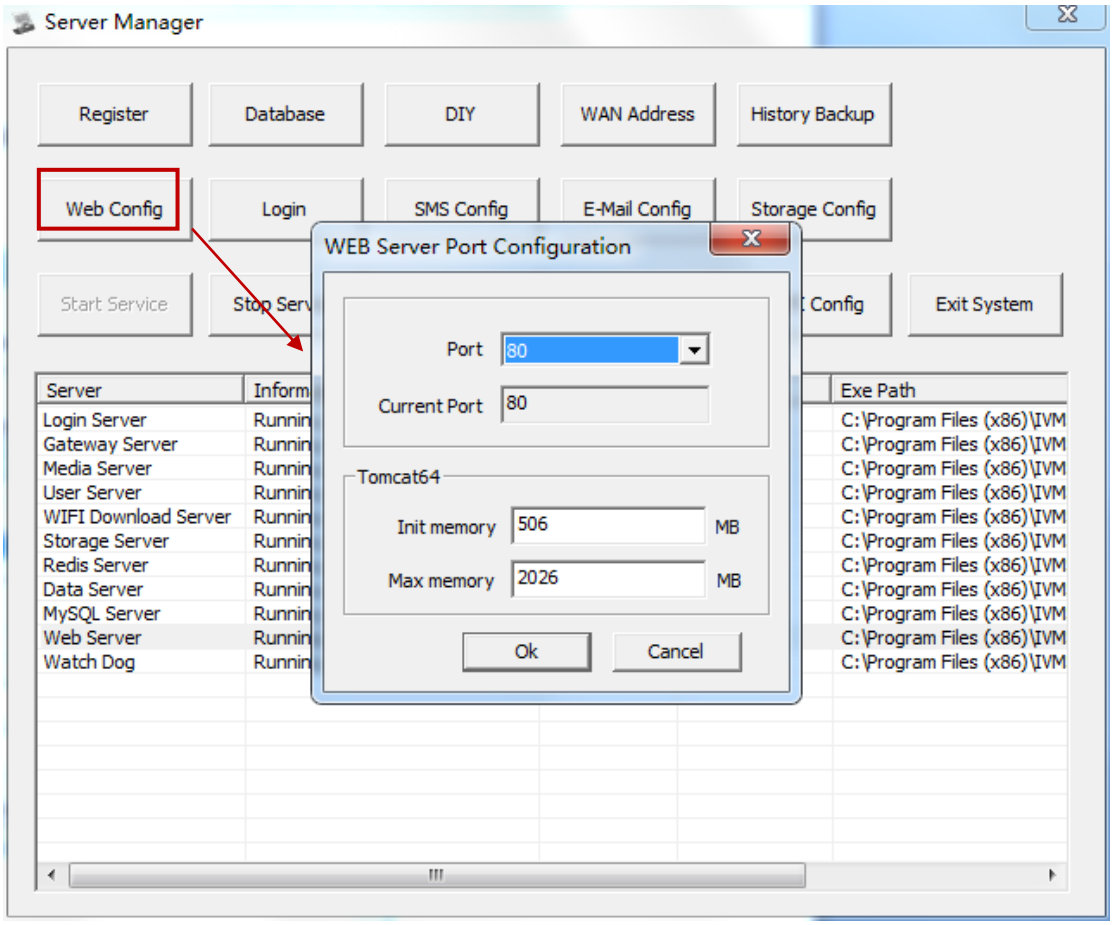
For example: fill in 7. Said to retain the last week of the backup file. The backup data will be deleted before 7 days ago.

It will be fully backed up all the data when the backup time arrive.



4.2.5 Modified IVMS Server web access port

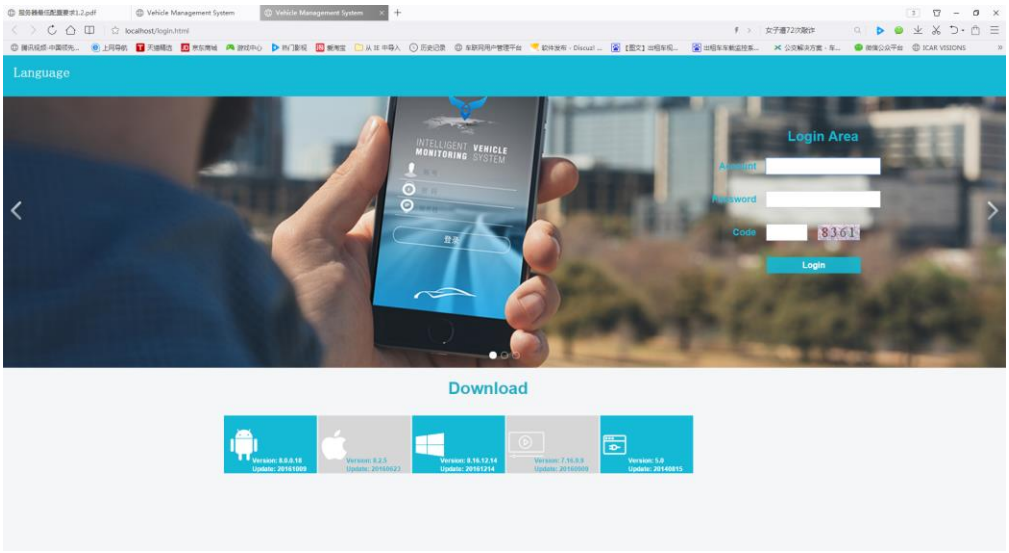
Here you can modify the web service port configuration 80 port has been occupied,as shown below:

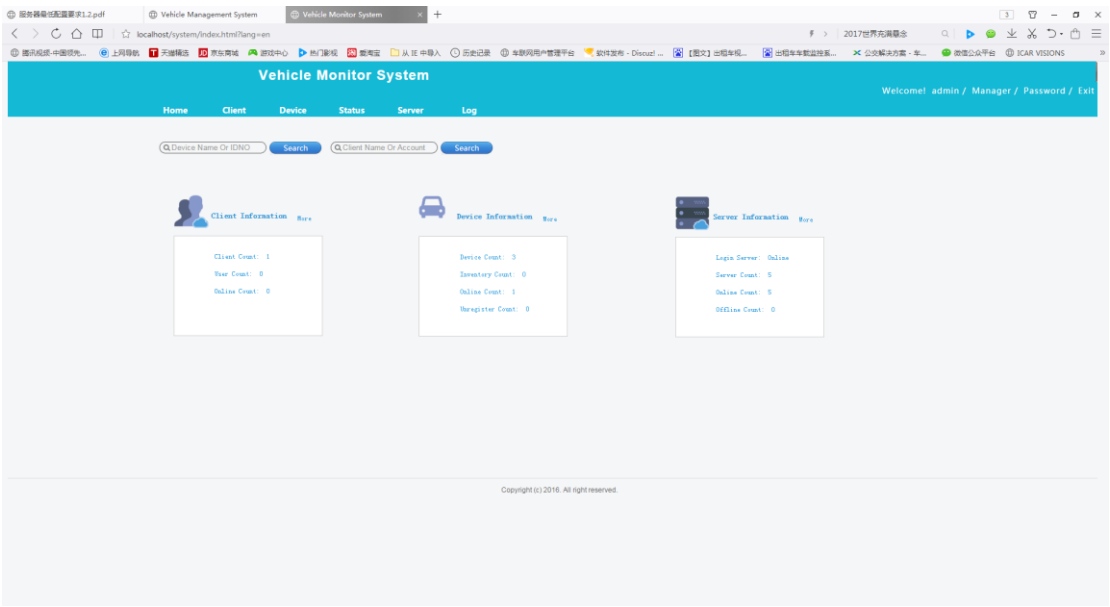


modify web access port

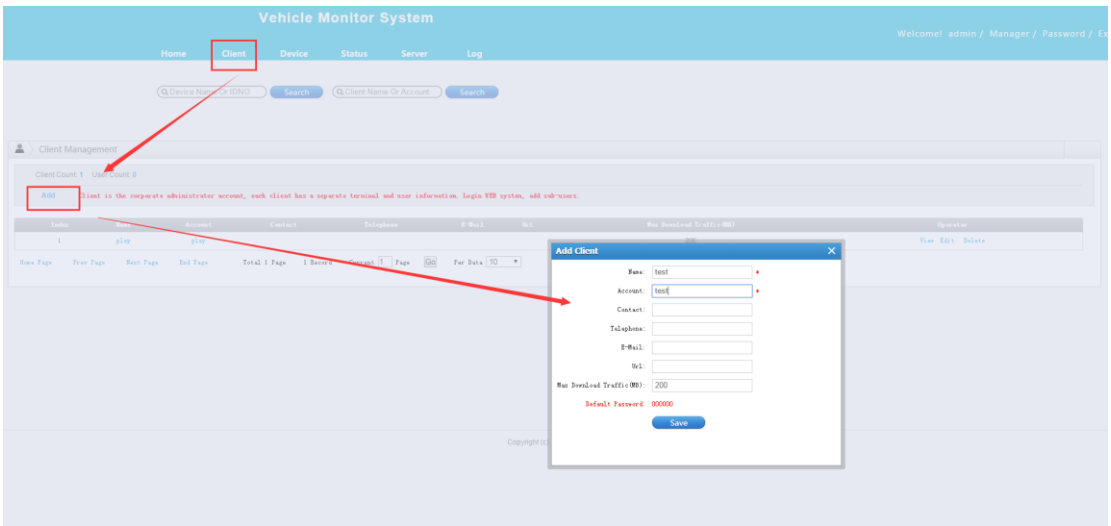
4.2.6 Login to System

Login to the management system (address: http://localhost), Local host IVMS Server is where the server resides, PC's IP address; IVMS Server BackOffice management system default login name and password are: admin





4.2.6.1 Adding Users

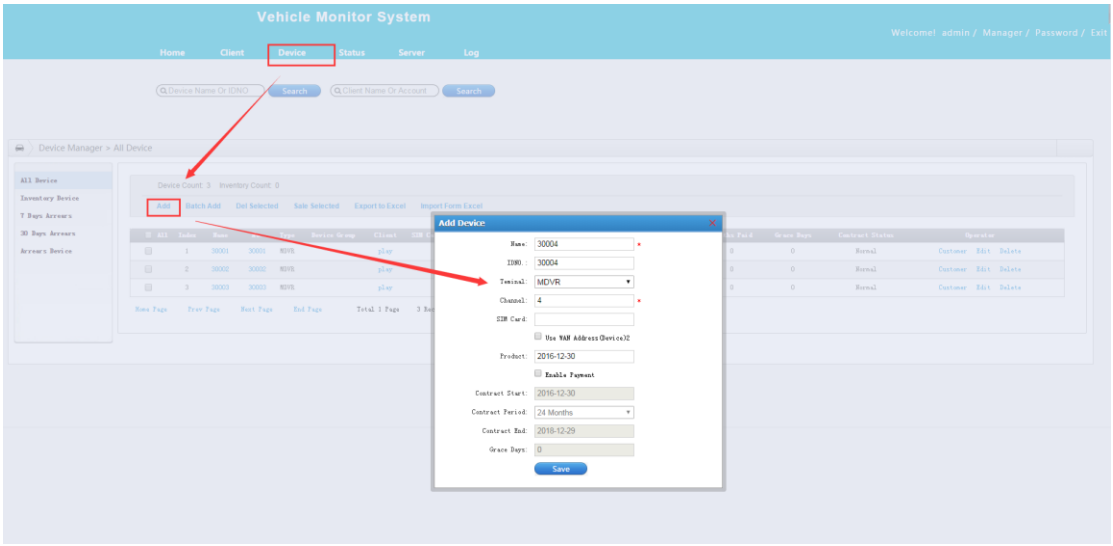


4.2.6.2 Adding Terminals/Devices/Vehicles ID

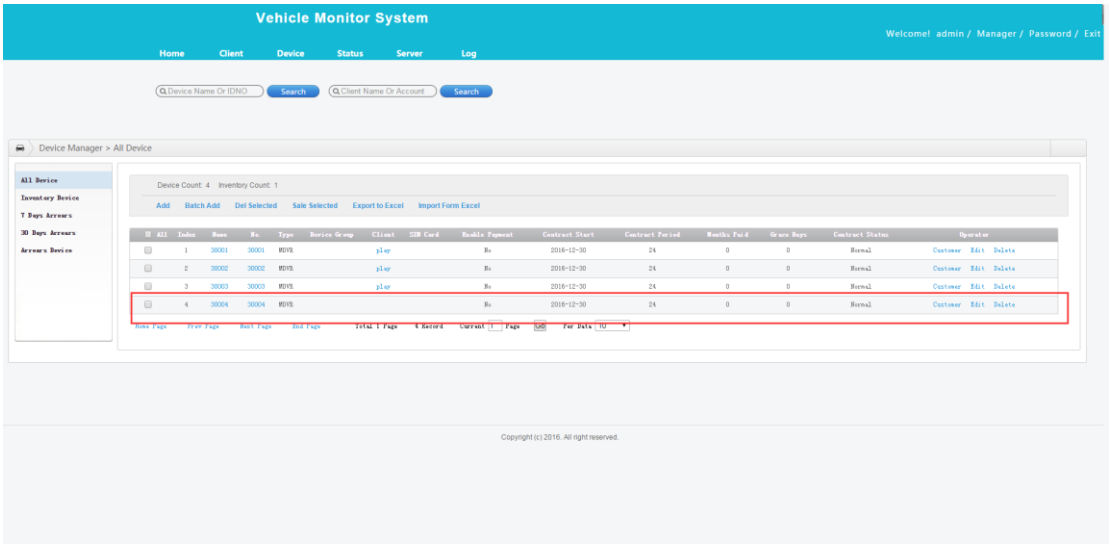
Select "Device" Tab

1.Adding a Single Terminal

Select “ADD”, Add Terminal Window will pop up. Enter the terminal/device information as required in the window and SAVE.

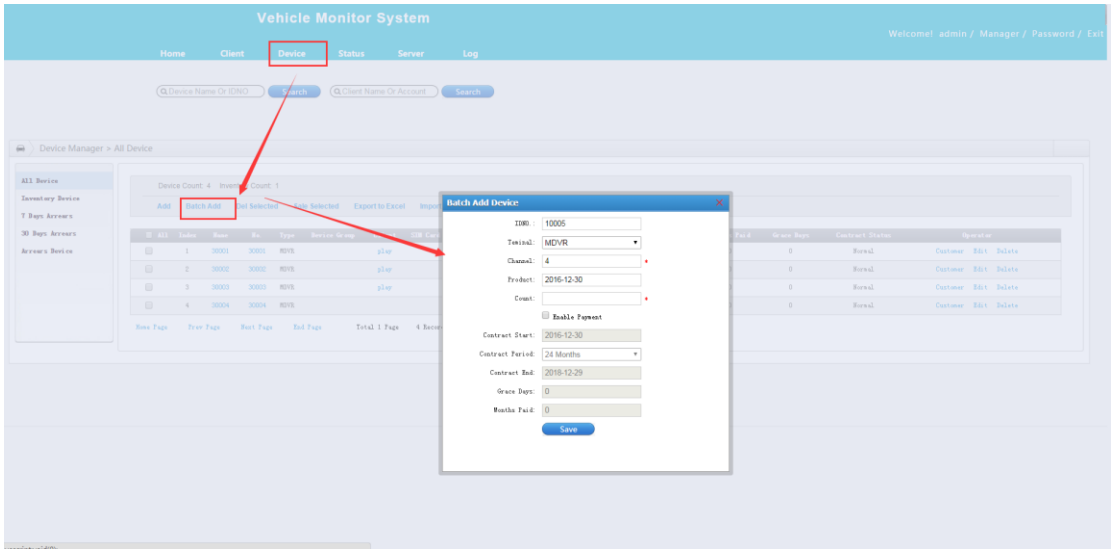


After successfully Saving the device information you will notice a line with your asset information added into the page.

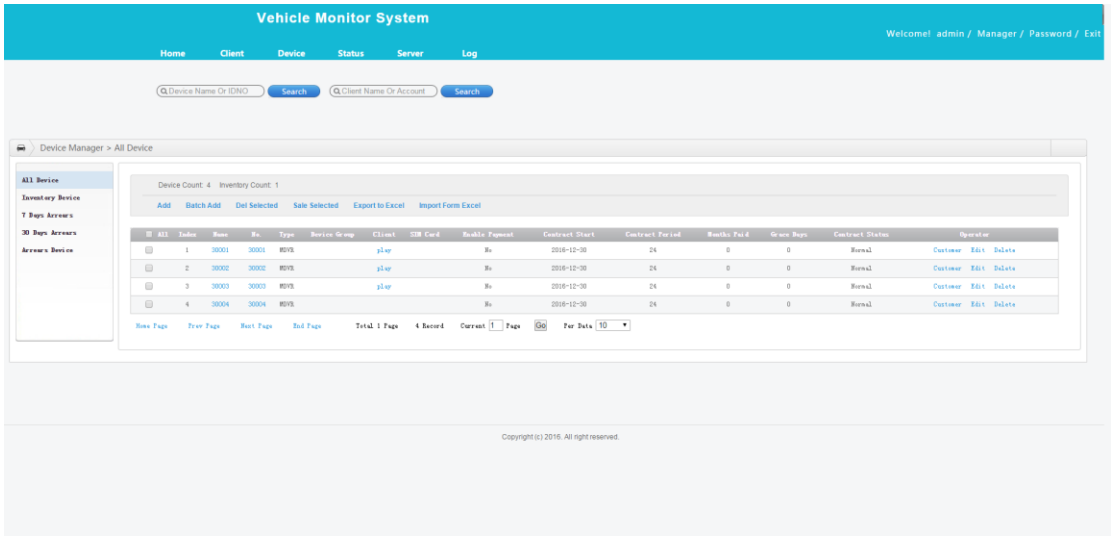


2.Adding Multiple Terminals/Devices in Batch

Select “ADD Batch”, a “Add Batch” Terminal window will pop up. Note: Adding Multiple Terminals in Batch requires adding morse than 1 but less than 10 Vehicles/Devices.



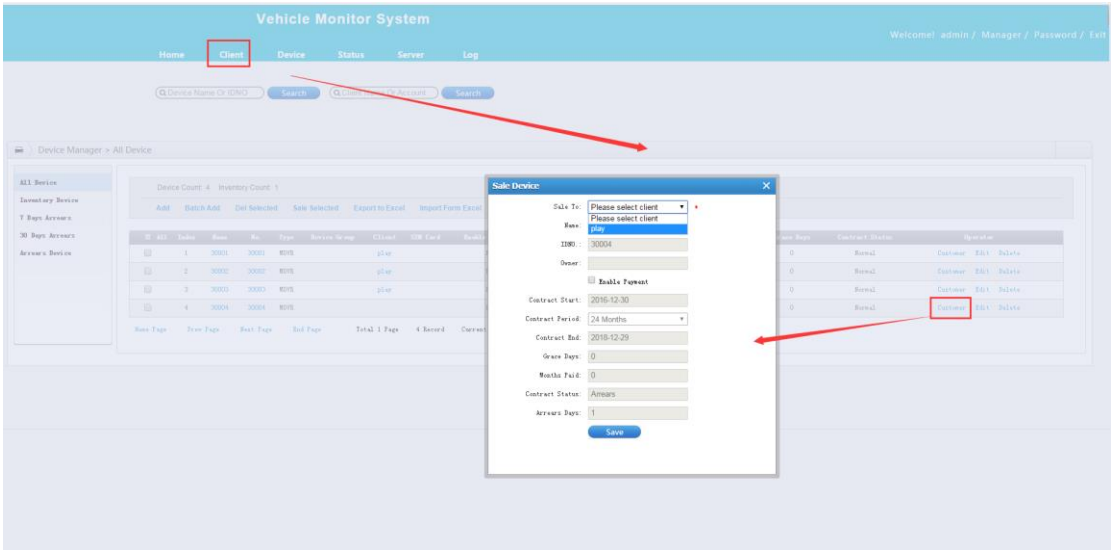
The example above and the result below shows the successful addition of 4 new vehicles/devices.



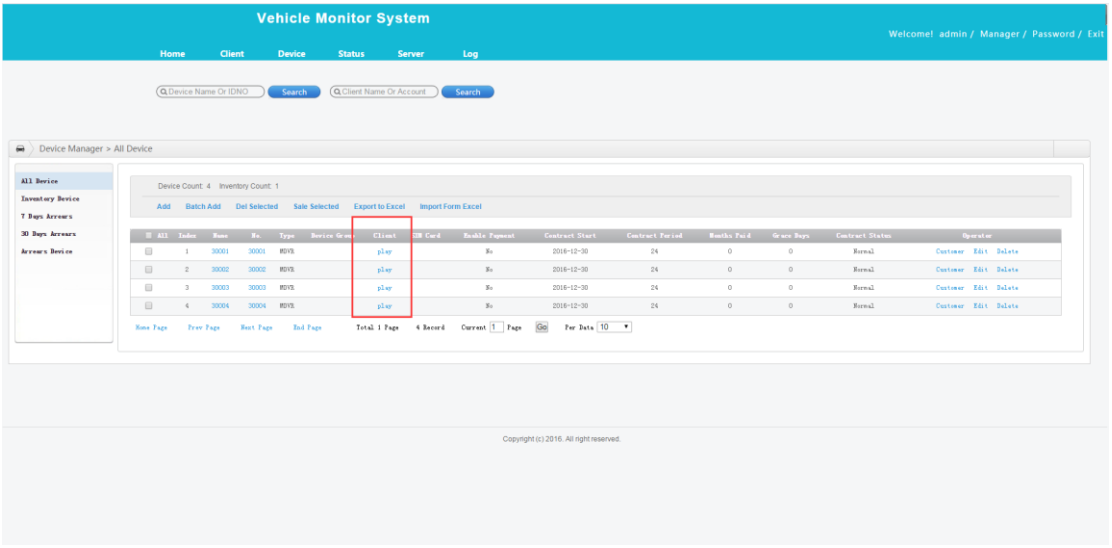
4.2.6.3 Assigning Groups/Owners

1.Single Terminal/Device Assignment

Select Assign Terminal/Device, Click on Assign, the Assign Terminal Window will pop up.

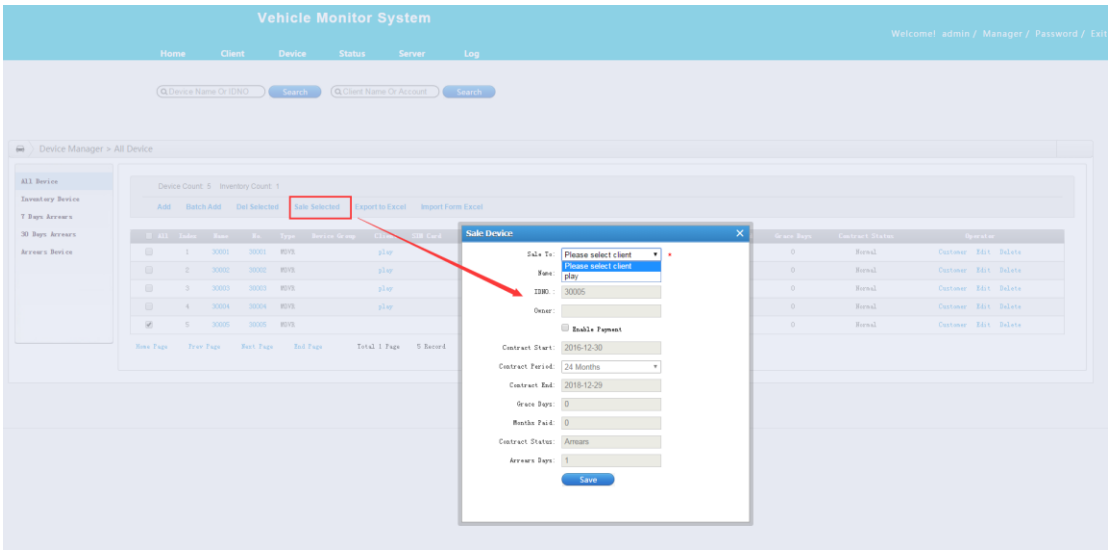


Select the Group/Owner to Assign to, SAVE, After successful Save, the terminal/device will be associated with the assigned Group/Owner name.

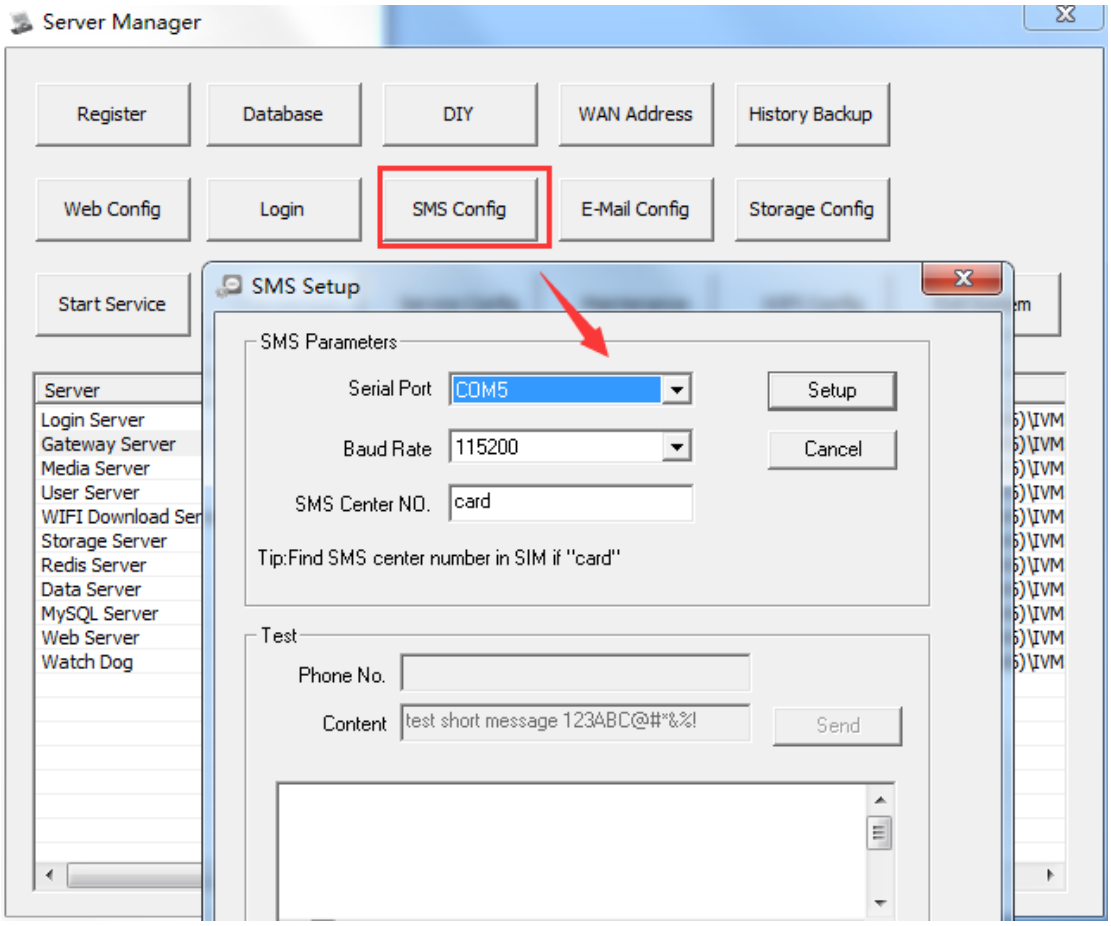


2.Assigning in Batch

Select the terminals/devices to be assigned, Select the Group/Owner to be assigned to.

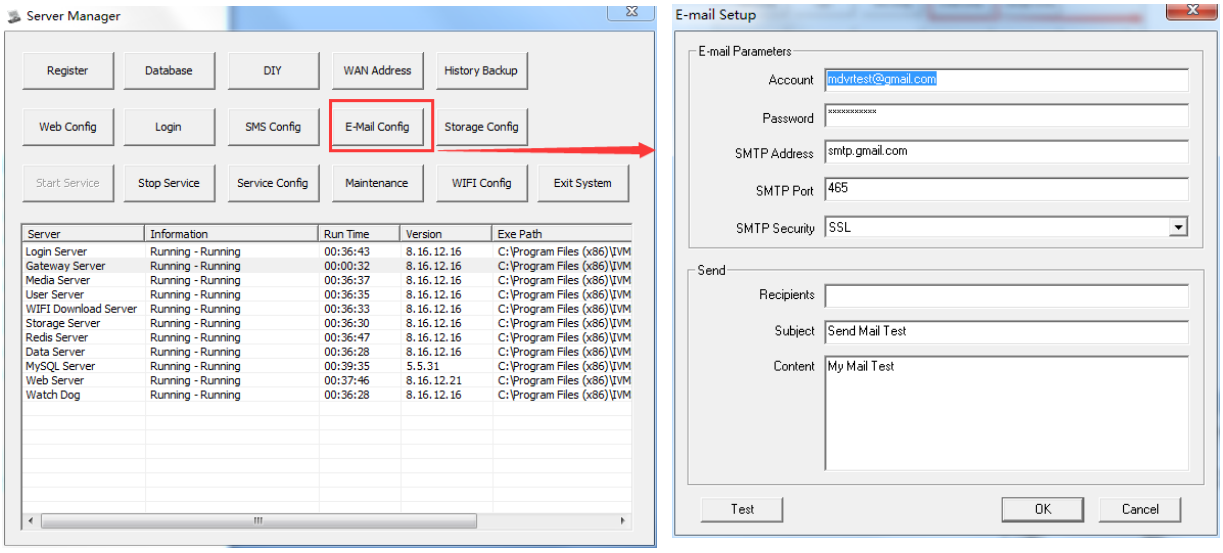


4.2.7 SMS configuration



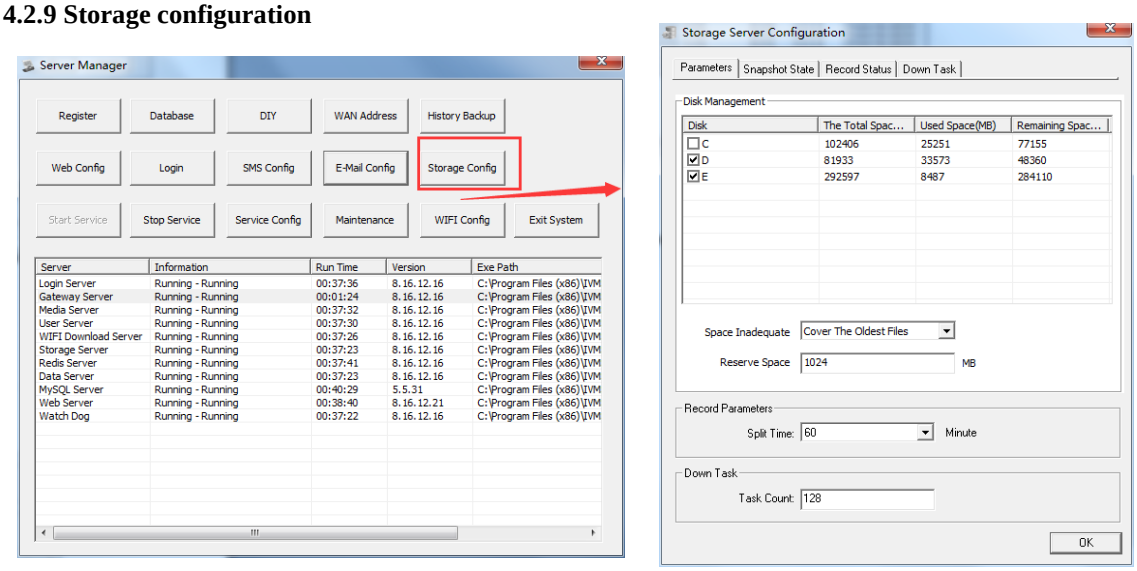
SMS configuration

4.2.8 Email configuration



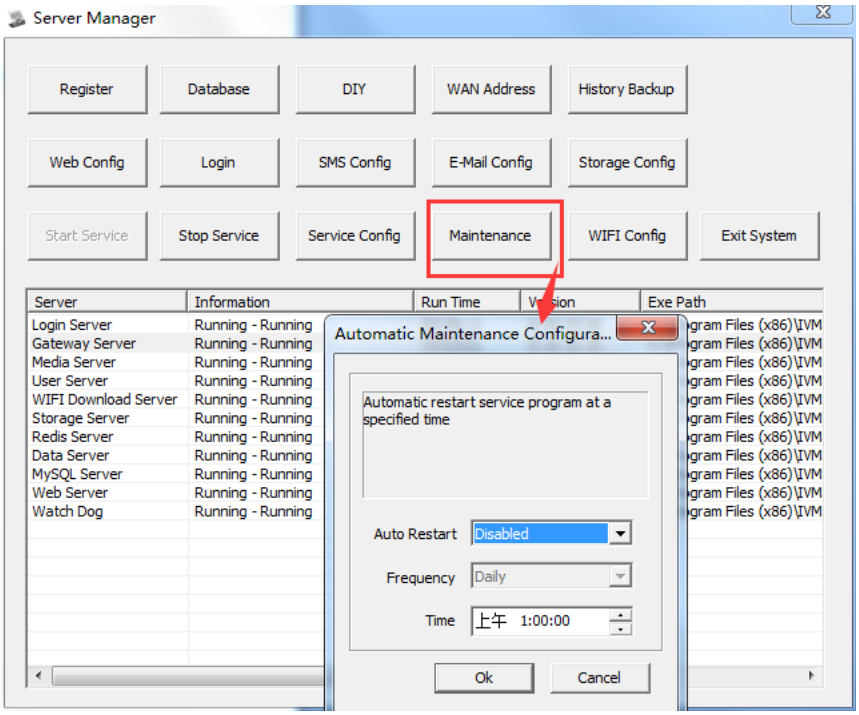
email configuration

4.2.9 Storage configuration

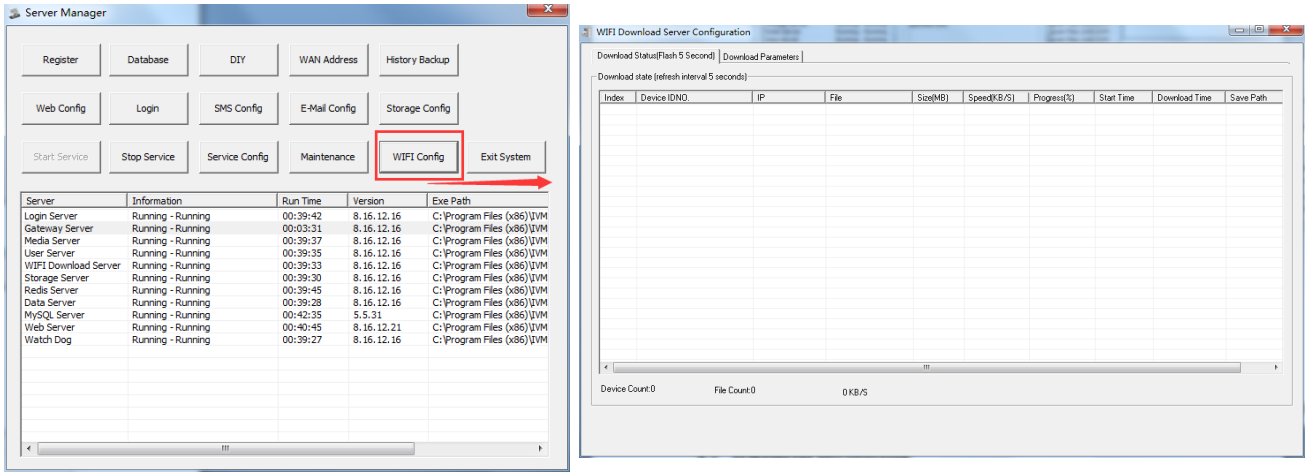


Storage configuration

4.2.10 Auto maintenance



4.2.11. WIFI download configuration parameters and status View

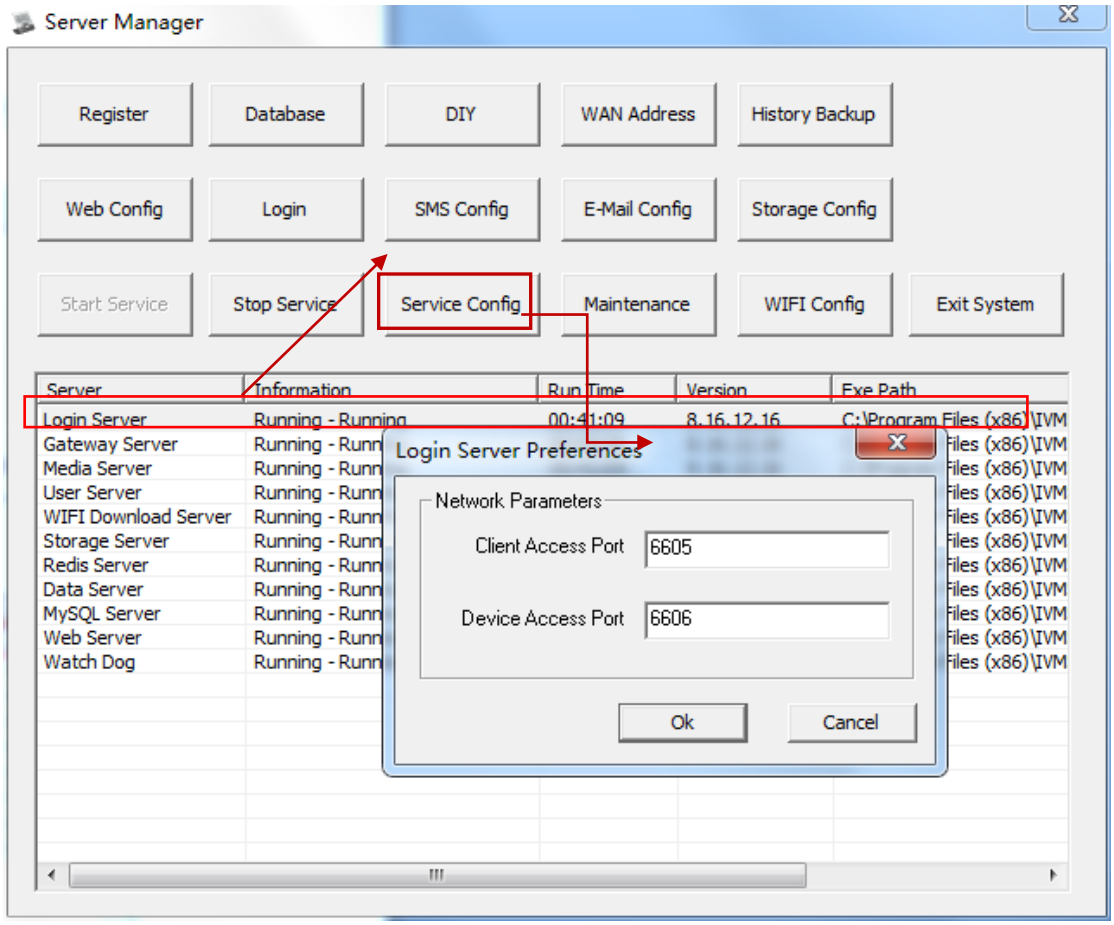


wifi download configuration parameters and status View

4.3 IVMS Server Introduction

4.3.1 Login Server

1. From the main IVMS Server window, select "Login Server", "Service Configuration" button and then click on the top of the interface, log on to the server can be configured in the form of pop-up network parameters, as shown below:



Login Server Parameter Configuration

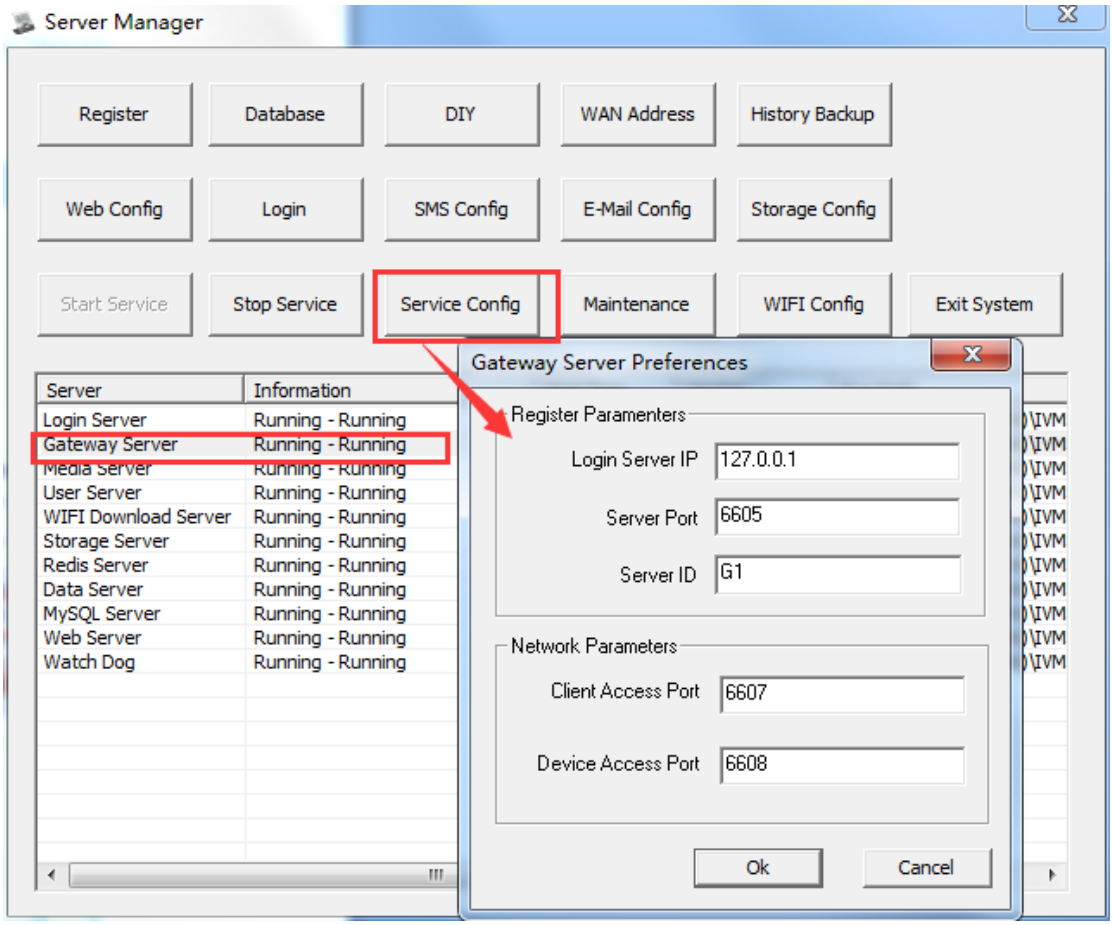
Client Access Port **:** Registered Client Users connect to the server through this port. Default is 6605, it is recommended not to modify;

Device Access Port: Registered devices/vehicles connects to the gateway server through this port. Defaults to 6606, it is recommended not to modify.

One or 2 servers can be deployed on the IVMS Server system and log on to the server, one of them as the primary server, another as Login (Backup) server. When the Login server fails, the Login server by switching to a virtual IP, will not affect the normal use of the device and the client.

4.3.2 Gateway Server

1.From the main IVMS Server window, select "Gateway Server", Click "Service Configuration" button which on the top of the interface, then you can config your gateway parameter , as shown below:



Gateway Server Configuration Parameters

Login Server Address: The IP address of the PC where the login server is located. If the gateway server and login server on the same PC, you can enter 127.0.0.1; conversely enter the login server where the PC's IP address (gateway server and login server in the same local area network,enter t he login server where the LAN IP address , Otherwise enter the login server's PC's public IP addre ss and enter the Windows service to modify the login tab in the gateway server properties); In som e cases, the 127.0.0.1 address is invalid. In this case, you must enter the IP address of the PC wher e the IVMS login server is located ;

Server port: Client Access the Login Server service port, default 6605, does not propose to modify.

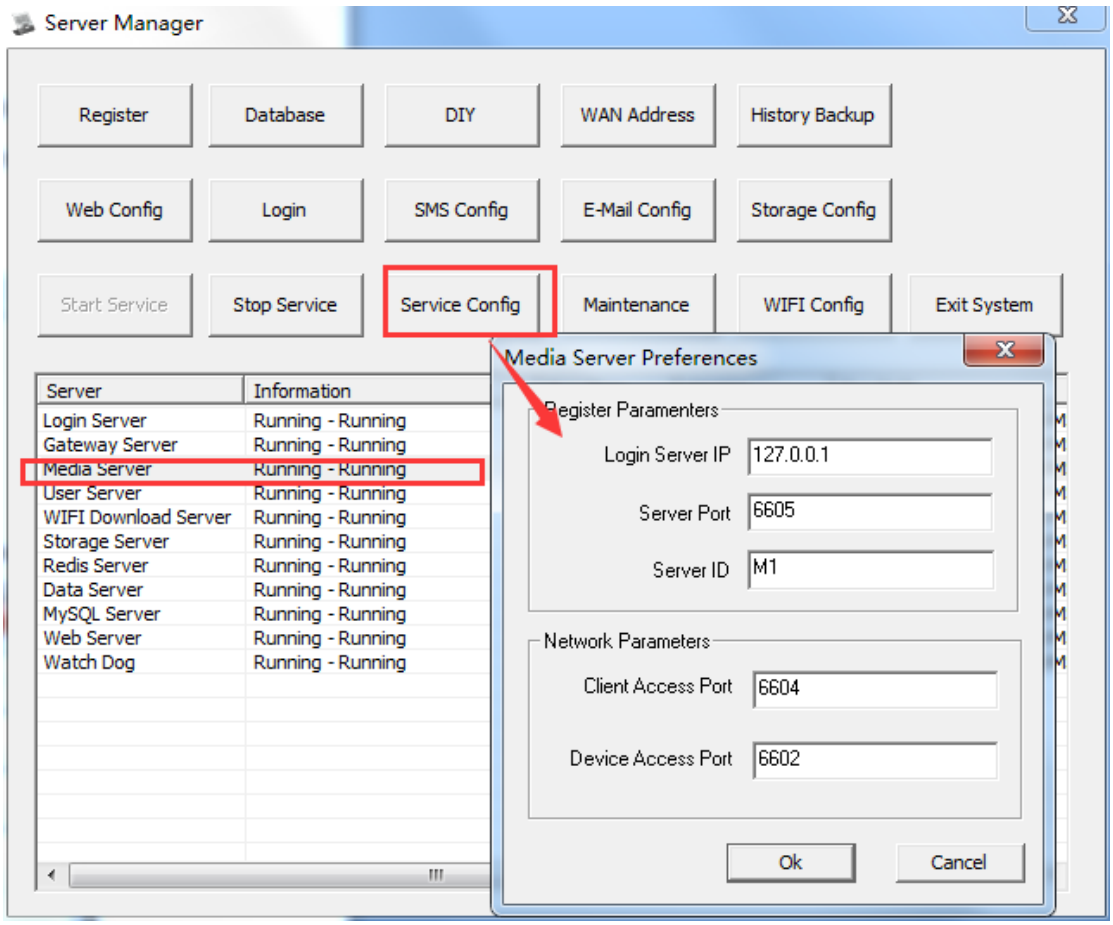
Server ID： Each Gateway Server has a unique number. The system can deploy one or more Gateway Servers, Login Server uses the unique number to distinguish between different gateway server, the unique number must be the same as the ID of the gateway server, and server management information defined in IVMS Server BackOffice Management System;

Client Access Port: Through this port to provide service for the Client and Media， default is 6607 ， does not propose to modify;

Device Access Port： Through this port to provide instruction registration service for car DVR. default is 6608 ， does not propose to modify;

4.3.3 Media Server

1. From the main IVMS Server Server window, select "Login Server", "Service Configuration" button and then click on the top of the interface, media server can be configured in the form of pop-up network parameters, as shown below



Media Server Configuration Parameter

Login Server Address: The IP address of the PC where the login server is located. If the gateway server and login server on the same PC, you can enter 127.0.0.1; conversely enter the login server where the PC's IP address (media server and login server in the same local area network,enter the login server where the LAN IP address , Otherwise enter the login server's PC's public IP address and enter the Windows service to modify the login tab in the media server properties); In some cas es, the 127.0.0.1 address is invalid. In this case, you must enter the IP address of the PC where the IVMS login server is located ;

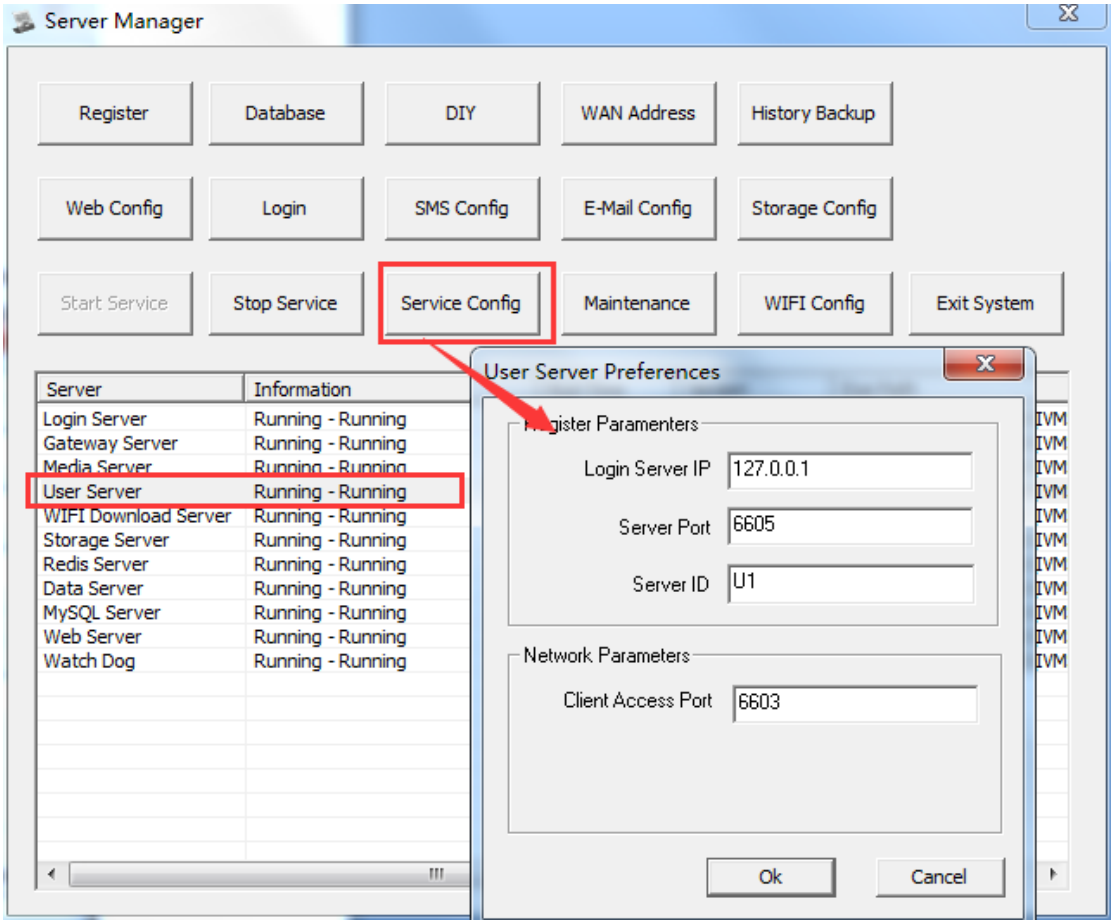
Server port: Client Access the Login Server service port, default 6605, not advised to change.

Server ID： Each Media Server has a unique number. The system can deploy one or more Media Servers, Login Server uses the unique number to distinguish between different Media server, the unique number must be the same as the ID of the Media Server, and server management information defined in IVMS Server BackOffice Management System;

Client Access Port: Through this port to provide Media forwarding service， default is 6601 ， does not propose to modify;

4.3.4 User Server

1. From the main IVMS Server Server window, select "Login Server", "Service Configuration" button and then click on the top of the interface, user server can be configured in the form of pop-up network parameters, as shown below:



User Server Configuration Parameters

Login Server Address: The IP address of the PC where the login server is located. If the gateway server and login server on the same PC, you can enter 127.0.0.1; conversely enter the login server where the PC's IP address (user server and login server in the same local area network,enter the lo gin server where the LAN IP address , Otherwise enter the login server's PC's public IP address an d enter the Windows service to modify the login tab in the user server properties); In some cases, t

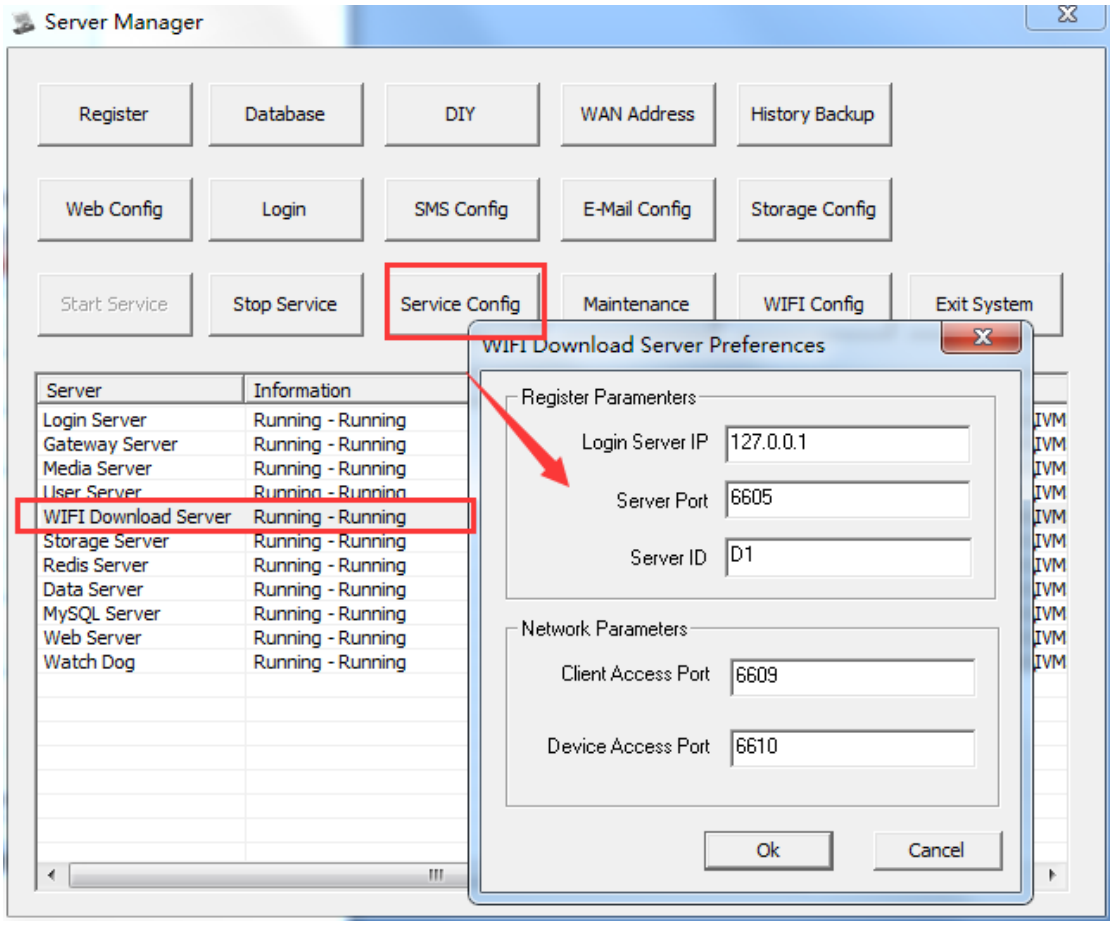
he 127.0.0.1 address is invalid. In this case, you must enter the IP address of the PC where the IV MS login server is located ;

Server port: Client Access the Login Server service port, default is 6605, not advised to change.

Server ID： Each User Server has a unique number. The system can deploy one or more User Servers, Login Server uses the unique number to distinguish between different User server, the unique number must be the same as the ID of the User server, and server management information defined in IVMS Server BackOffice Management System;

Client Access Port: Through this port to provide registration and update data service，default is 6603 ， does not propose to modify;

4.3.5 WIFI Download Server



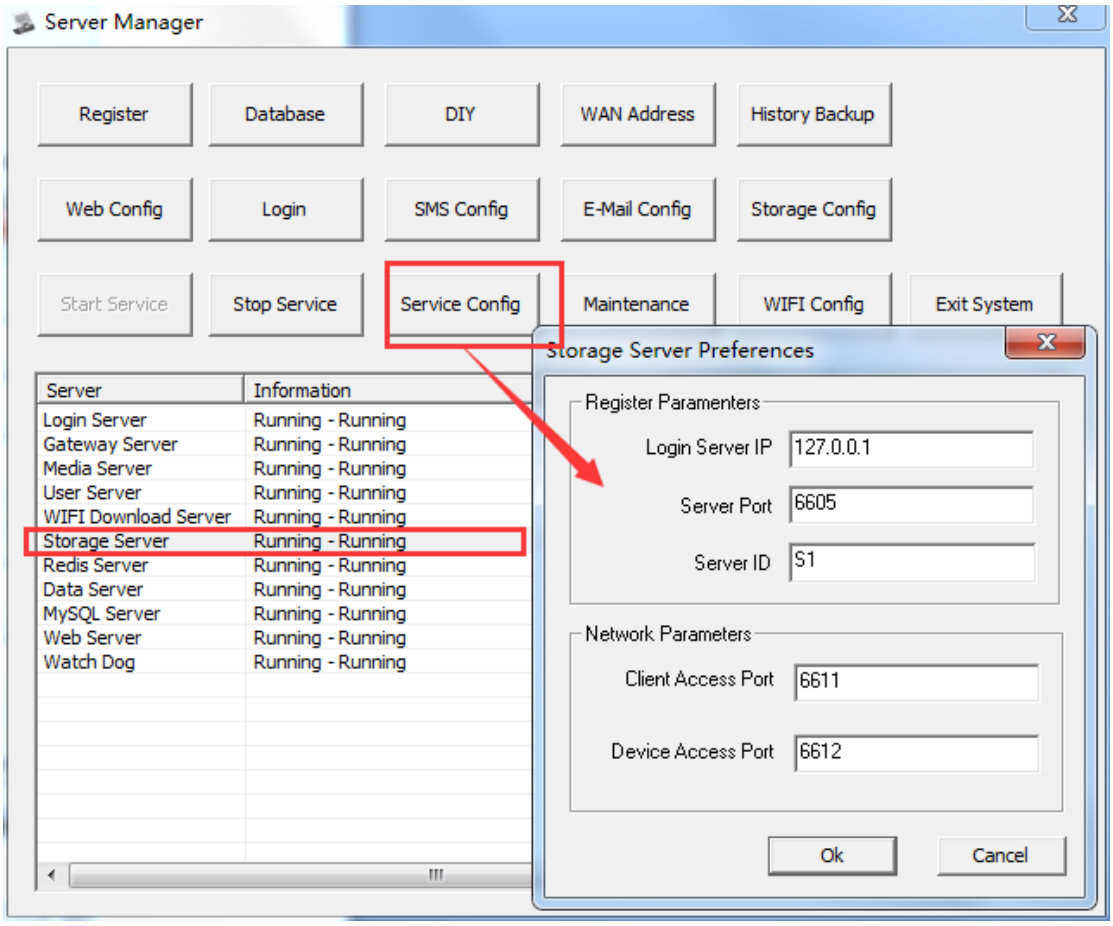
Login Server Address: The IP address of the PC where the login server is located. If the gateway server and login server on the same PC, you can enter 127.0.0.1; conversely enter the login server where the PC's IP address (WiFi-download server and login server in the same local area network ,enter the login server where the LAN IP address , Otherwise enter the login server's PC's public I P address and enter the Windows service to modify the login tab in the WiFi-download server pro

perties); In some cases, the 127.0.0.1 address is invalid. In this case, you must enter the IP address of the PC where the IVMS login server is located ;

Server port: Client Access the Login Server service port, default 6605, not advised to change.

Server ID： Each WIFI Download Server has a unique number. The system can deploy one or more WIFI Download Servers, Login Server uses the unique number to distinguish between different WIFI Download Server, the unique number must be the same as the ID of the WIFI Download Server, and server management information defined in IVMS Server BackOffice Management System;

4.3.6 Storage Server



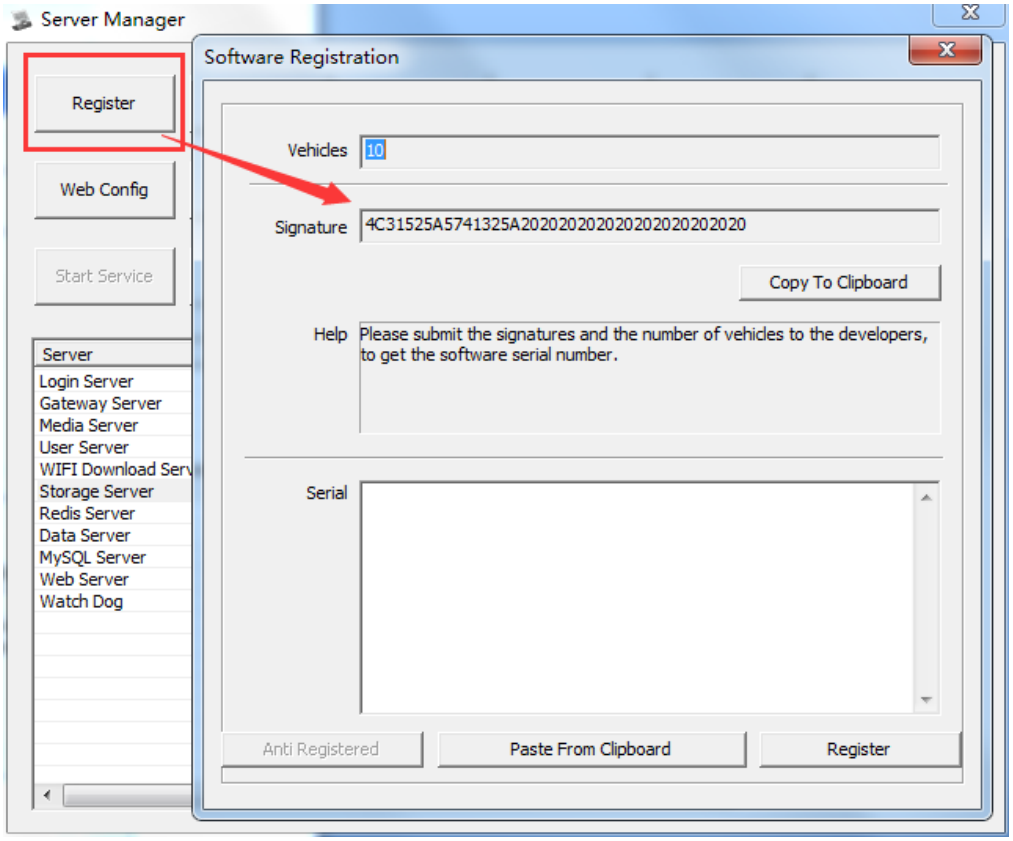
Login Server Address: The IP address of the PC where the login server is located. If the gateway server and login server on the same PC, you can enter 127.0.0.1; conversely enter the login server where the PC's IP address (storage server and login server in the same local area network,enter th e login server where the LAN IP address , Otherwise enter the login server's PC's public IP addres s and enter the Windows service to modify the login tab in the storage server properties); In some cases, the 127.0.0.1 address is invalid. In this case, you must enter the IP address of the PC where the IVMS login server is located ;

Server port: Client Access the Login Server service port, default 6605, not advised to change.

Server ID: Each Storage Server has a unique number. The system can deploy one or more Storage Servers, Login Server uses the unique number to distinguish between different Storage Server, the unique number must be the same as the ID of the Storage Server, and server management information defined in IVMS Server BackOffice Management System;

5. Server Registration

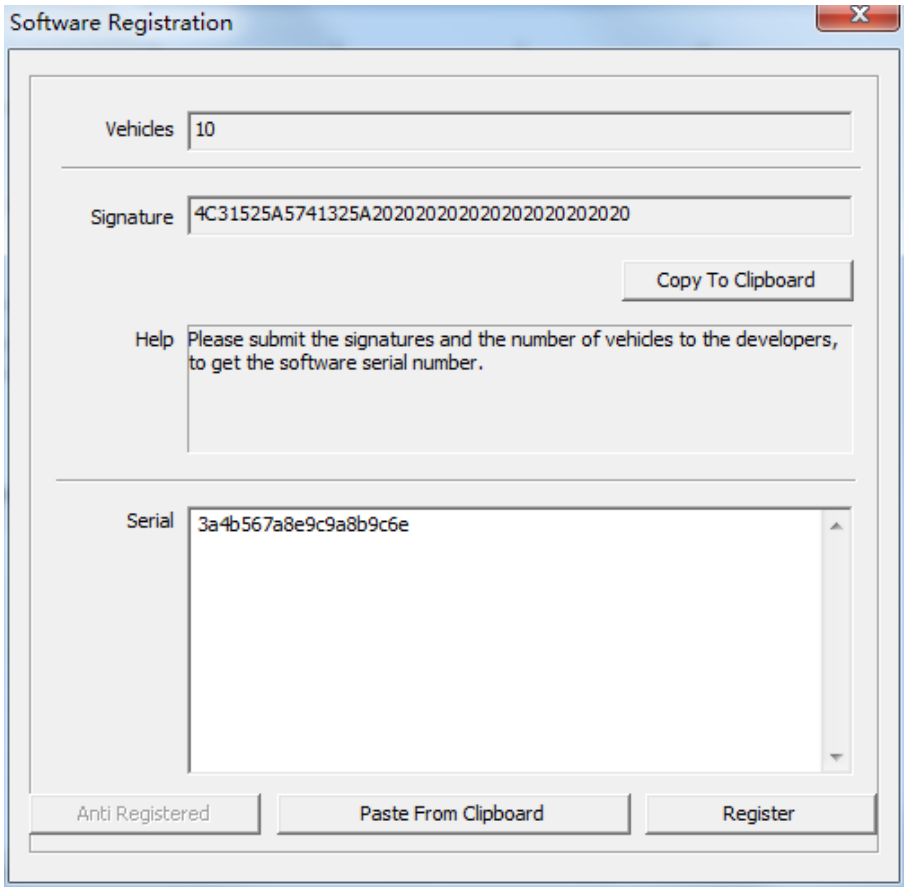
1. Click on the "Software Registration" menu item in the the IVMS Server server control window.



2.The software registration interface at this time you can see the signature of this server, as shown above the red box shown

3. When mouse click "Copy to clipboard" signature copied to the clipboard, you can also directly select the signature copy available to developers, this signature to obtain the corresponding serial number (including the management of vehicles quantitative information).

4.Paste it into the corresponding serial number provided by the developers of the signature sequence number window, as shown below:



5.Click "Register" button to complete the registration.If you want to see the Software Registration information，Click IVMS Server server control interface "Software Registration" button will pop up the software registration information. This registration information has been saved to the registry service where PC users to replace the network card or hard drive, as well as software feature codes change, need to re-obtain the serial number.