Gowin Software Quick Installation Guide

SUG501-1.1E,09/09/2020

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Revision History

Date	Version	Description
04/01/2020	1.0E	Initial version published.
08/06/2020	1.01E	The description of how to automatically start floating license upon boot updated.
09/09/2020	1.1E	Windows service starting Gowin Floating license added.

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1 Software Environment

Table 1-1 Software Environment

Windows	Win7/8/10 (64bit) Win7/WinXP (32bit) Windows Server 2008 R2
Linux	Centos6/7 (64bit) Ubuntu 18.04 LTS

2 Software Download

The Gowin software installation packages and Gowin License Server for floating are given at Gowin Website: https://www.gowinsemi.com/en/support/download_eda/. There are Windows and Linux versions for you to choose.

- Installation package for Windows: Gowin Software for win (Vx.x.xBeta);
- Installation package for Linux is compressed with the name "Gowin Software for linux (Vx.x.xBeta)";
- Floating license server software for Windows: Gowin License Server for Win;
- Floating license server software for Linux is compressed with the name "Gowin License Server for Linux".

Note!

- Users need to register and log on to the Gowin website before downloading the installation package;
- "x" in "Vx.x.xBeta" means the software version.

3 Software Installation

3.1 Software Installation: Windows

After downloading, double-click the Gowin software installation package and install according to the prompt. The installation directory can be changed as required. After installation, the shortcut will be created on the PC desktop.

Note!

The installation in Windows system is the same.

3.2 Software Installation: Linux

After downloading and decompressing the release, double-click the Gowin software installation package and install according to the prompt. The installation directory can be changed as required. After installation, the shortcut will be created on the PC desktop.

Note!

The installation in Linux system is the same.

3.3 Notes for Software Installation

3.3.1 Notes for Windows

- You must close anti-virus programs before installing Gowin software.
- The installation path should not contain any Chinese characters or spaces.

3.3.2 Notes for Linux

- Root permission is required to start programmer.

- After decompressing the file, it is recommended that you use the "chmod" command to modify the permissions of the associated files.

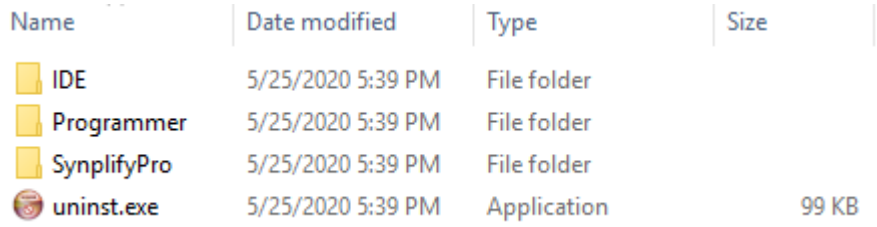
3.3.3 Notes for SynplifyPro

- Do not support PC with dual network card;
- Do not support 32 bit operating system;
- If you cannot start SynplifyPro in Windows system without network, please use "whatscl" to confirm whether the certificate is expired or not. Run command "\x.x\ynplifyPro\bin\whatscl.exe --check-cert", if expired, please update the certificate, or contact Gowin FAE;
- In Linux system, if running SynplifyPro fails after configuring the environment variable, open "/root/.bashrc" file and set the environment variable "LM_LICENSE_FILE" again. The value format is "port number @ hostname". After terminal running "source /root/.bashrc", it can take effect.

3.4 Software Installation Directory

When Gowin software installed in Windows, IDE, Programmer, SynplifyPro and uninst. exe under the installation directory "path\Gowin_Vx.x.xBeta" will be created, as shown in Figure 3-1. There is no "uninst. exe" in Linux, other directories (IDE, Programmer, SynplifyPro) are the same as Windows. This section uses Windows as an example to introduce Gowin software installation directory.

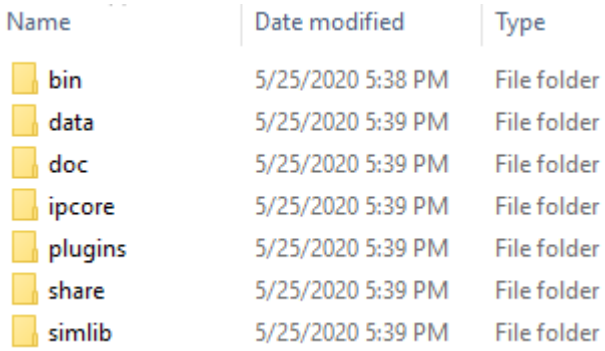
Figure 3-1 Installation Directory



3.4.1 IDE Directory

The IDE file is the installation directory of the Gowin software, as shown in Figure 3-2. The bin is an executable file containing such as gw_ide.exe and floorplanner.exe. Double-click "bin\gw_ide.exe" to start Gowin software directly, and double-click "bin\floorplanner.exe" to start FloorPlanner directly. The doc file contains user guides related to Gowin software. The simlib file is the simulation library of Gowin software.

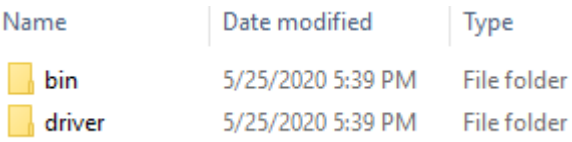
Figure 3-2 IDE Directory



3.4.2 Programmer Directory

The Programmer file is the installation directory of Gowin programmer, as shown in Figure 3-3. The bin is an executable file. Double-click "bin\programmer.exe" to start Gowin programmer directly.

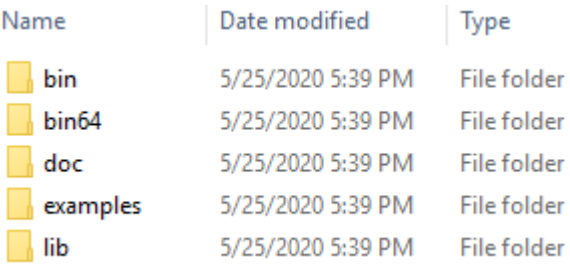
Figure 3-3 Programmer Directory



3.4.3 SynplifyPro Directory

The SynplifyPro file is the installation directory of the Synplify Pro software, as shown in Figure 3-4. The bin is an executable file. Double-click "bin\synplify_pro.exe" to start the Synplify Pro software directly. The doc file contains user guides related to the Synplify Pro software.

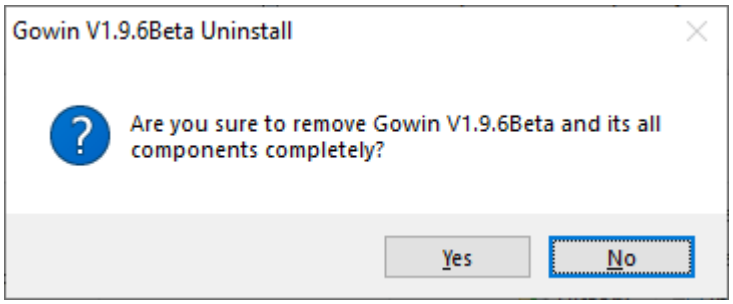
Figure 3-4 SynplifyPro Directory



3.4.4 uninst.exe

Uninst.exe, an executable file, uninstalls Gowin software. Double-click uninst.exe and Gowin Vx.x.xBeta Uninstall prompt box pops up, as shown in Figure 3-5. Click "Yes" to uninstall Gowin software.

Figure 3-5 Uninstall Software



4 Software License Configuration

4.1 Overview

This chapter describes the software license configuration.

4.1.1 License Definition

The software license is a format contract between the user and GOWIN Semiconductor to define and limit the rights of user and the obligations of GOWIN Semiconductor.

Software license consists of three elements: license type, MAC (Media Access Control) address, and term of validity.

4.1.2 Type of License

Gowin software licenses support node-locked license and floating license.

A Node-locked license is a license based on MAC address. A user who obtains the node-locked license can only use the software on the device with the matching MAC address.

A Floating license requires the MAC address of server being used to host the license on the LAN. There is a limit on the number of users, but there is no limit on the maximum number of users.

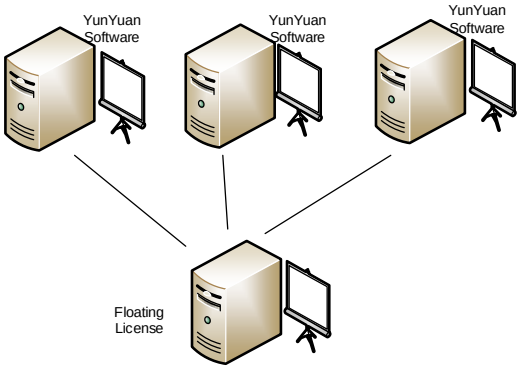
4.1.3 Use of License

The Windows and Linux systems can use the node-locked or floating license. The specific use of the license is as follows:

1. A single user with a stand-alone PC in which the license and Gowin software are installed can use either the node-locked license or the floating license.

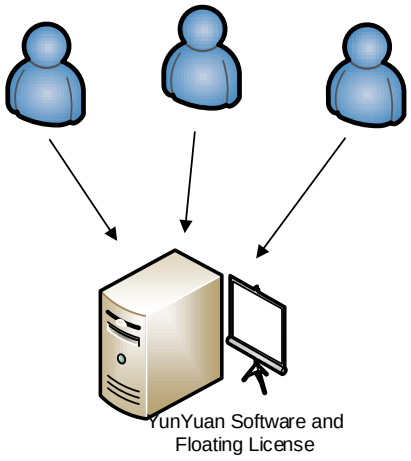
2. Multiple users with multiple stand-alone PCs in the same LAN, Gowin software installed in each PC, can apply for a floating license. The floating license is installed in one PC in the LAN, and other users obtain the floating license by connecting to IP of this PC, as shown in Figure 4-1.

Figure 4-1 Floating License Installed in Server



3. Multiple users with multiple stand-alone PCs in the same LAN and all PCs with Windows system can apply for a floating license. Install Gowin software and floating license in the Windows server operating system. Users can log in their accounts on their PCs (such as remote desktop login) to access the Windows server, and directly use Gowin software and license on the Windows server, as shown inFigure 4-2.
4. Multiple users with multiple stand-alone PCs in the same LAN, all PCs in Windows system, can apply for a floating license. Install Gowin software and the floating license in the Linux operating system. Users can log in their accounts on their PCs (such as Exceed onDemand Desktop client login) to access the Linux server and directly use Gowin software and license on the Linux server, as shown in Figure 4-2.
5. Multiple users with multiple stand-alone PCs in the same LAN, all PCs in Linux system, can apply for a floating license. Install Gowin software and floating license in the Windows server operating system. Users can log in their accounts on their PCs (such as RDP protocol) to access the Windows server, and directly use Gowin software and license on the Windows server, as shown in Figure 4-2.
6. Multiple users with multiple stand-alone PCs in the same LAN, all PCs in Linux system, can apply for a floating license. Install Gowin software and the floating license in Linux operating system. Users can access the Linux server on their PCs (such as VNC Sever) and directly use Gowin software and license on the Linux server, as shown in Figure 4-2.

Figure 4-2 Floating License and Gowin Software Installed in Server

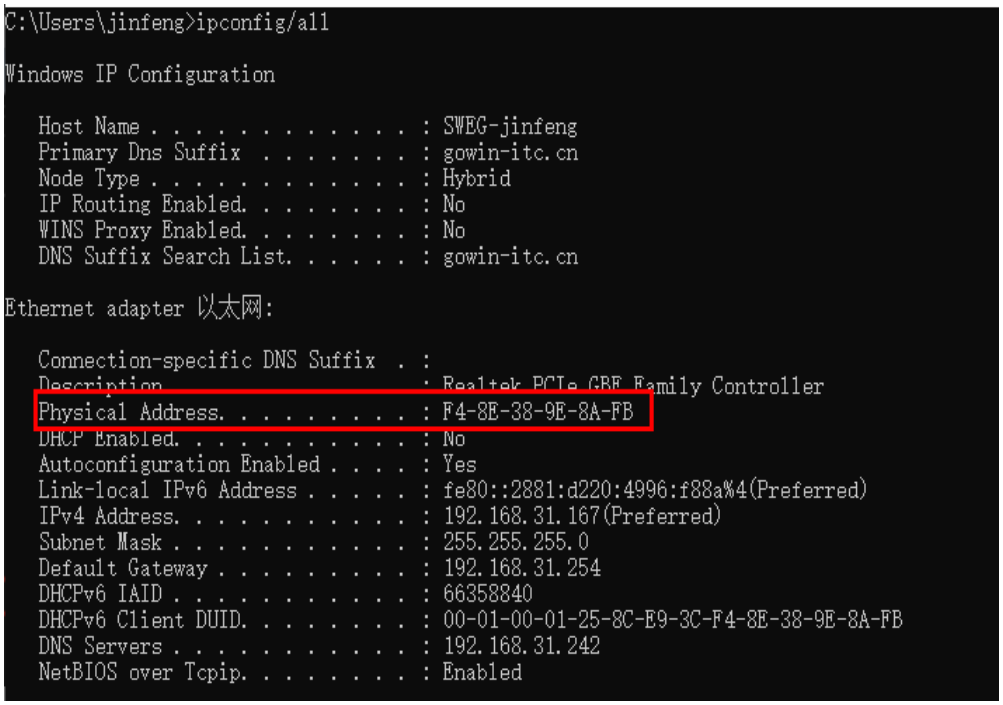


4.1.4 MAC Address Acquired

For MAC address acquired in Windows system, using Window 10 as an example:

1. Click "Start" menu and select command prompt;
2. Enter "ipconfig/all" in the command prompt and press enter;
3. The physical address is as shown in the red box in Figure 4-3.

Figure 4-3 MAC Address in Windows 10



For MAC address acquired in Linux system, using Centos7.5 as an example:

1. Open terminal;
2. Enter "/sbin/ifconfig" at the terminal and press enter;
3. The physical address is as shown in the red box in Figure 4-4.

Figure 4-4 MAC Address in Centos7.5

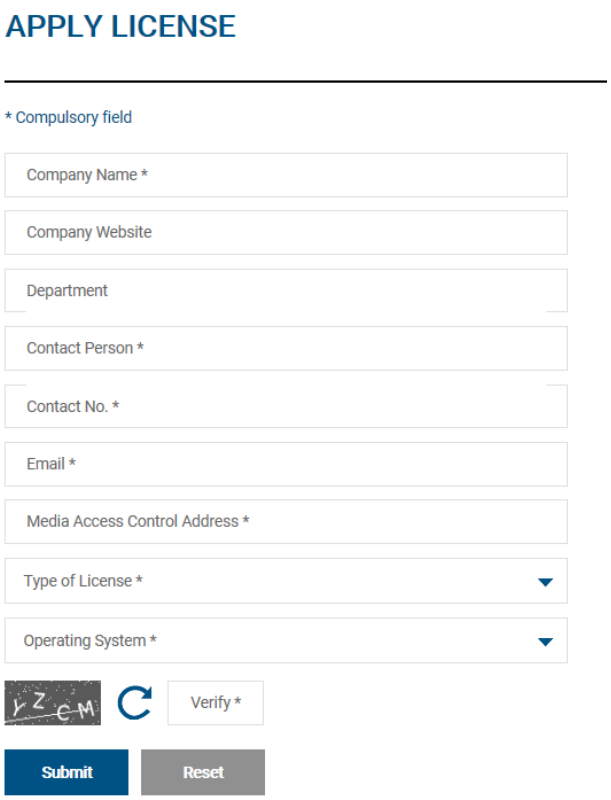
```
[ruihua@JINAN9103 ~]$ /sbin/ifconfig
em1       Link encap:Ethernet  HWaddr 98:90:96:A5:CC:0D
          inet addr:192.168.30.40  Bcast:192.168.30.255  Mask:255.255.255.0
          inet6 addr: fe80::9a90:96ff:fea5:cc0d/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:6477545660 errors:0 dropped:0 overruns:0 frame:0
          TX packets:9281832108 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:3098180390063 (2.8 TiB)  TX bytes:8329690596305 (7.5 TiB)
          Interrupt:20 Memory:f7c00000-f7c20000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:1279116809 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1279116809 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:14194406577155 (12.9 TiB)  TX bytes:14194406577155 (12.9 TiB)
```

4.1.5 Apply for Gowin Gowin Software License

Apply for Gowin software license at Gowinsemi website: https://www.gowinsemi.com/en/support/download_eda/ or contact Gowin FAE.

The page of applying for License is shown in Figure 4-5.

Figure 4-5 Applying for License Page



License type: Node-locked and Floating.

The service period of the applied License is one year by default, and you can apply again after it expires. The floating license supports five users by default, but there is no limit on the number of the maximum users.

4.2 License Configuration: Windows

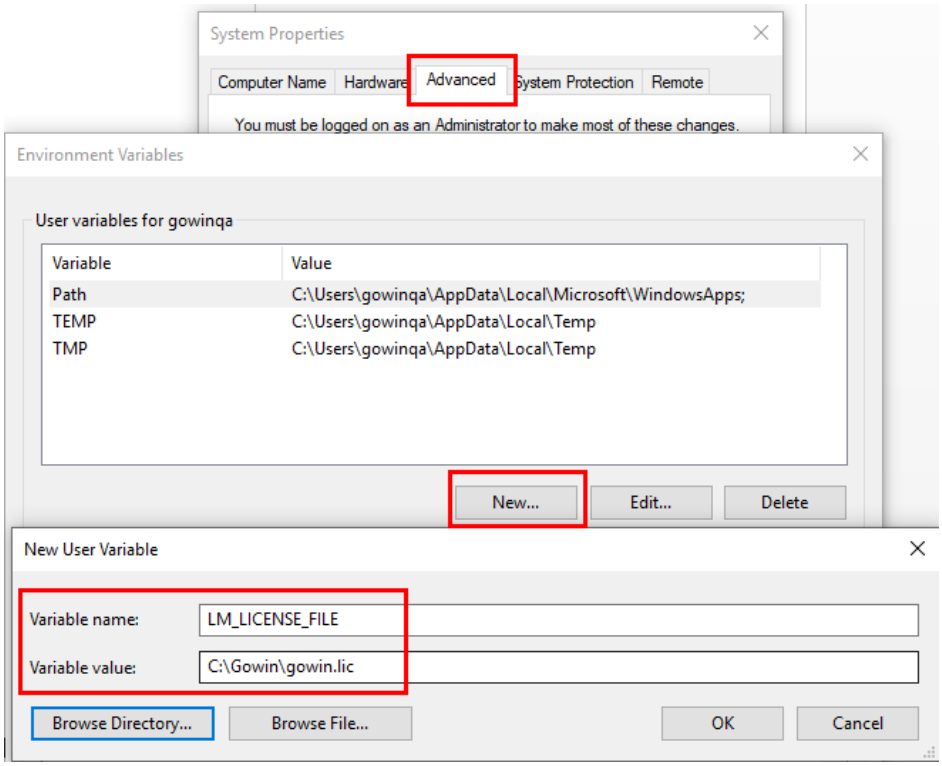
The configuration mode in Windows system is the same, using Windows 10 as an example.

4.2.1 SynplifyPro License Load

Node-locked License

The node-locked license is based on PC MAC and is only for the user of this PC. After acquiring the license, configure environment variable. The variable name is "LM_LICENSE_FILE" and the variable value is the absolute path of node-locked license, as shown in Figure 4-6 .

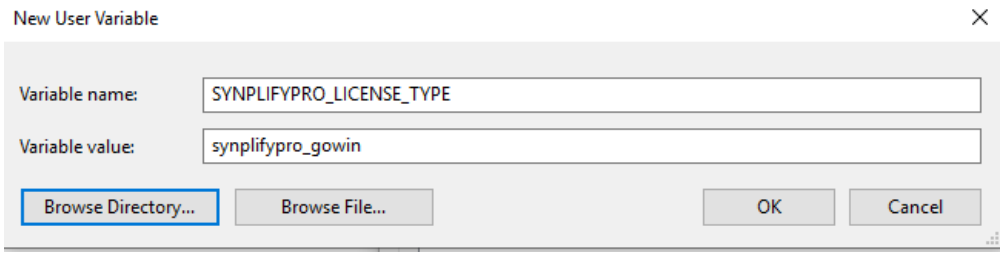
Figure 4-6 Environment Variables Setting



Note!

If other partner's softwares with SynplifyPro systhesis tool were installed in PC, conflict issues will occur. It needs to add "SYNPLIFYPRO_LICENSE_TYPE" in system environmental variables and configure as "synplifypro_gowin", as shown in Figure 4-7.

Figure 4-7 Add SYNPLIFYPRO_LICENSE_TYPE



Floating License

Floating license is to set up a license server on the LAN, all PCs in the LAN can be used. You need to start license before using floating license.

The steps to start the floating license service are as follows:

1. Install SCL

   - Click the "scl_v2018.06_windows.exe" in synplifyProLicenseStartServer to install the SCL software. Install it according to the wizard steps. Configure the "Site Information" as follows:

- "Site ID": The "siteid" value of the SynplifyPro license file (such as gowin_synplifyPro.lic), such as 29247;
- "Site Administrator": The administrator name of this PC;
- "Contact Information": Optional, the contact information of the administrator;

- Select the installation path according to the wizard steps, such as "C:\Synopsys\SCL". Click "next" until the page of installation done appears. For example, the "Completing the SCL 2018.06 Setup Wizard" page appears. Click "Finish" to complete the SCL installation;

2. Modify the content in the floating license file:

   - Modify the PC name in the floating license file, for example, "SERVER hostname1 F8BC12950972 27020": "hostname1" should be modified to the PC name and "27020" is the port number, which should be modified based on the PC installed SynplifyPro.
   - Modify the snpslmd path in the floating license file. On the basis of the "snpslmd.exe" path in SCL, modify the line "VENDOR snpslmd /path/to/snpslmd". For example, modify this line to "VENDOR snpslmd C:\Synopsys\SCL\2018.06\win32\bin\snpslmd.exe".

3. Load license
   There are two ways to load license: SCL command mode and SCL configuration mode

   - SCL Command Mode

     a). Open the cmd window and run the command to start license service. The command: path\lmgrd.exe –c path\licensefile –l path\logfile.

     Note!

     -c: Specified license file;

     -l: Generated log file.

     b). After finish, check the log file in the "path\logfile" directory to confirm if the License has been installed successfully. If yes, the content as shown in Figure 4-8 will appear in the log file.

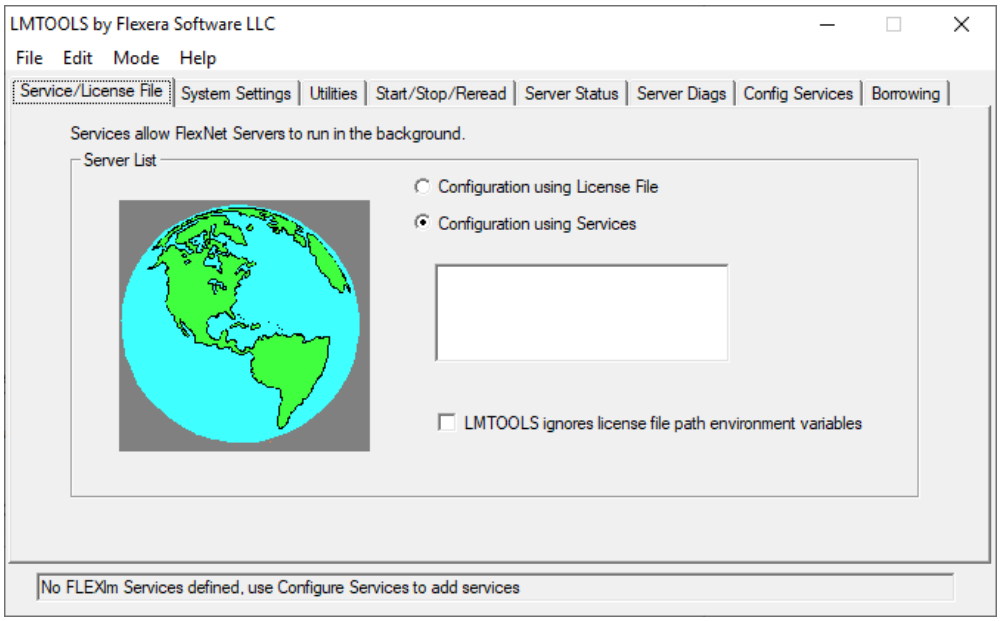
Figure 4-8 Log File Content of License Installed Successfully

```
01/28/2019 09:16:06 (snpslmd) Siteid: 29247, Server Hostid: 525400B8ABE7, Issued on: 12/18/2018
01/28/2019 09:16:06 (snpslmd) ------------------------------------------------------------------
 9:16:06 (snpslmd) SLOG: Statistics Log Frequency is 240 minute(s).
 9:16:06 (snpslmd) SLOG: TS update poll interval is 0. TS update is detected by midnight reread only.
 9:16:06 (snpslmd) SLOG: Activation borrow reclaim percentage is 0.
 9:16:06 (snpslmd) (@snpslmd-SLOG@) ================================================
 9:16:06 (snpslmd) (@snpslmd-SLOG@) === Vendor Daemon ===
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Vendor daemon: snpslmd
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Start-Date: Mon Jan 28 2019 09:16:06 CST
 9:16:06 (snpslmd) (@snpslmd-SLOG@) PID: 30659
 9:16:06 (snpslmd) (@snpslmd-SLOG@) VD Version: v11.14.1.3 build 212549 x64_lsb ( build 212549 (ipv6))
 9:16:06 (snpslmd) (@snpslmd-SLOG@)
 9:16:06 (snpslmd) (@snpslmd-SLOG@) === Startup/Restart Info ===
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Options file used: None
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Is vendor daemon a CVD: Yes
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Is TS accessed: No
 9:16:06 (snpslmd) (@snpslmd-SLOG@) TS accessed for feature load: -NA-
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Number of VD restarts since LS startup: 0
 9:16:06 (snpslmd) (@snpslmd-SLOG@)
 9:16:06 (snpslmd) (@snpslmd-SLOG@) === Network Info ===
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Listening port: 37814
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Daemon select timeout (in seconds): 1
 9:16:06 (snpslmd) (@snpslmd-SLOG@)
 9:16:06 (snpslmd) (@snpslmd-SLOG@) === Host Info ===
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Host used in license file: swlicense
 9:16:06 (snpslmd) (@snpslmd-SLOG@) Running on Hypervisor: Not determined - treat as Physical
 9:16:06 (snpslmd) (@snpslmd-SLOG@) ================================================
```

- SCL Configuration Mode

a). Start "lmtools.exe" in snpslmd path; the GUI is as shown in Figure 4-9;

Figure 4-9 SCL Start GUI



b). Select "Config Services" to set the related files path, as shown in Figure 4-10 :

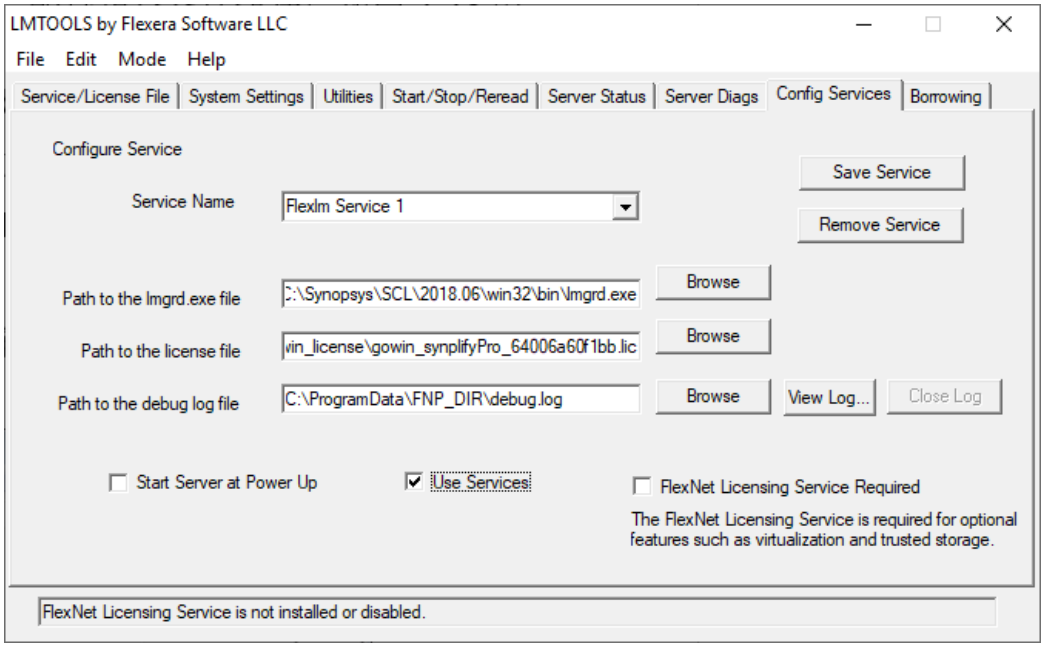
- "Path to the lmgrd.exe file": lmgrd.exe file path;

- "Path to the License file": license file path;
- "Path to the debug log file": the path of the log file after License configuration.

Note!

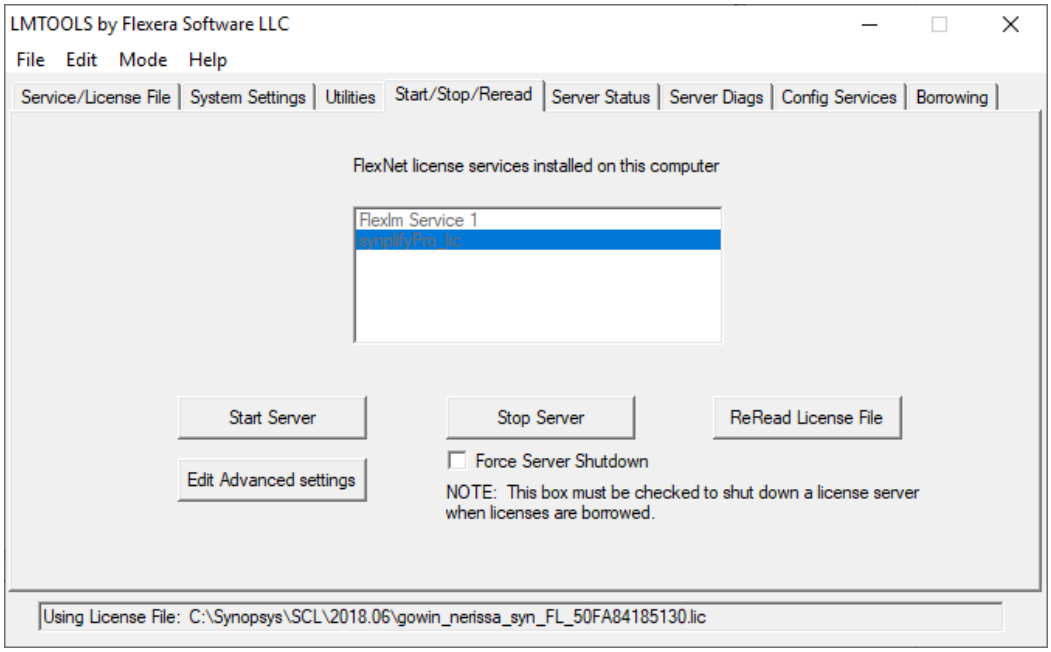
If there is no log file, you will need to create one in log output directory before configuration.

Figure 4-10 SCL Configuration GUI



c). Start the license server after configuration, as shown in Figure 4-11. Select "Start/Stop/Reread", and then click "Start Server". If "Server Start Successful" displays, the server has started successfully. Log file can also be checked to see if the server has started successfully. Click "View Log" as shown in Figure 4-10 to see the log file.

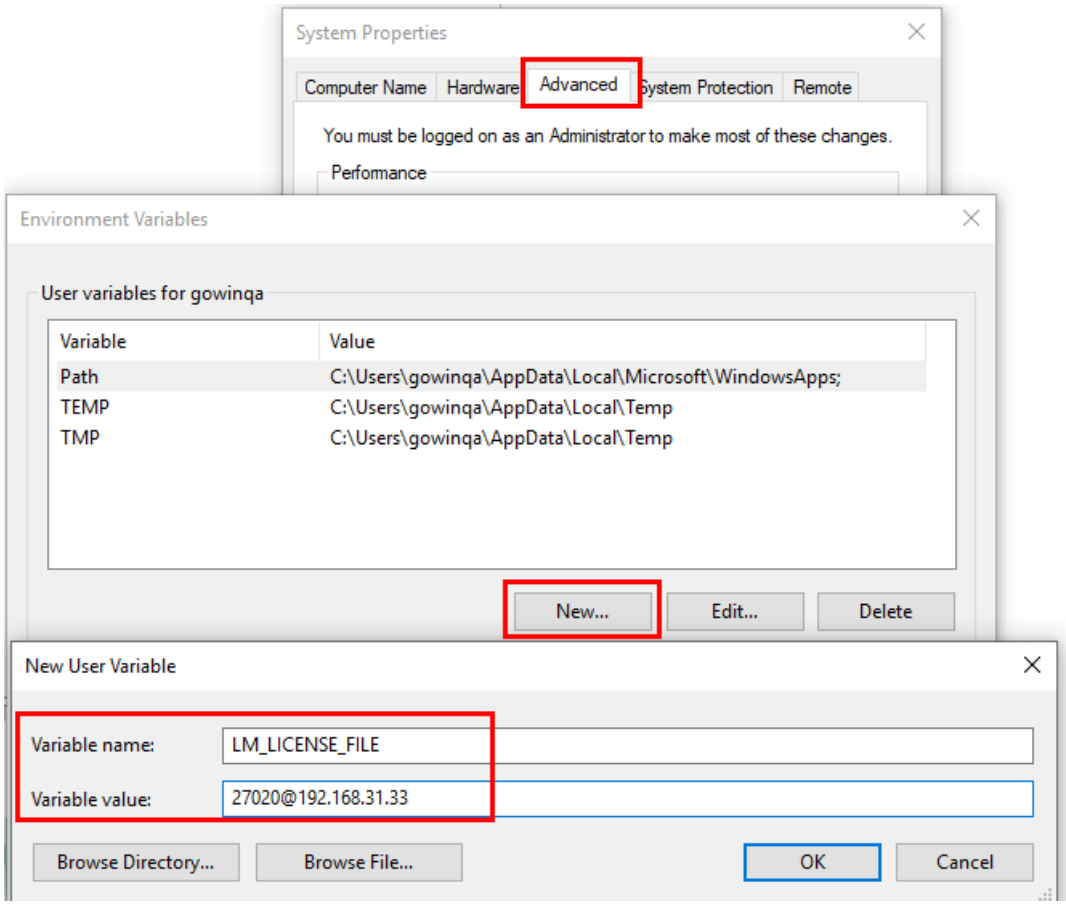
Figure 4-11 SCL Start license GUI



Note!

After starting license server, the system environment variable "LM_LICENSE_FILE" is required to be configured before using the SynplifyPro floating license, as shown in Figure 4-12.

Figure 4-12 Environment Variables Setting



4.2.2 Gowin License Loading

Gowin software checks the license automatically when the user opens it. If the license is not correct, the software will not open, and an error message will be displayed, as shown in Figure 4-13. After clicking "OK", the license configuration window pops up, as shown in Figure 4-14.

Figure 4-13 License Error

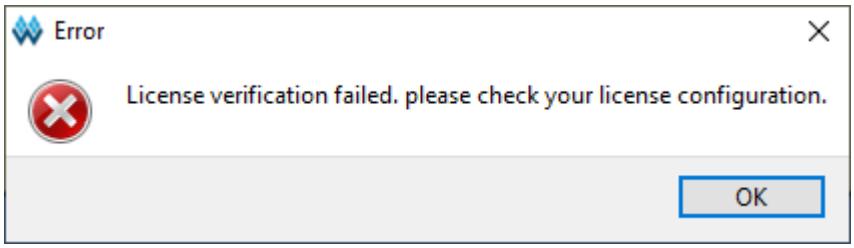
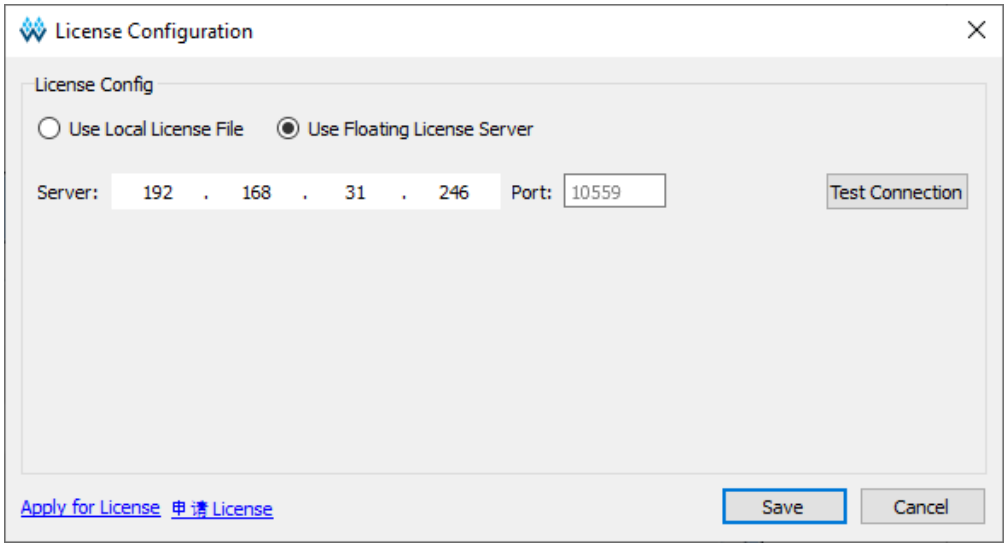


Figure 4-14 Manage License Options



Node-locked License

For the first time to configure, select "Use Local License File" and click "Browse…" to add the file path for node-locked license, then click "Save", as shown in Figure 4-14.

Open Gowin Gowin software. Click "Help > Manage License…" in the menu bar to open the "License Configuration" to update configuration, as shown in Figure 4-14.

Floating License

There are three ways to start floating license:

- PnrLicenseStartServer

- Automatically starting upon boot
- Windows service

Start floating license using PnrLicenseStartServer. There are two ways to start PnrLicenseStartServer:

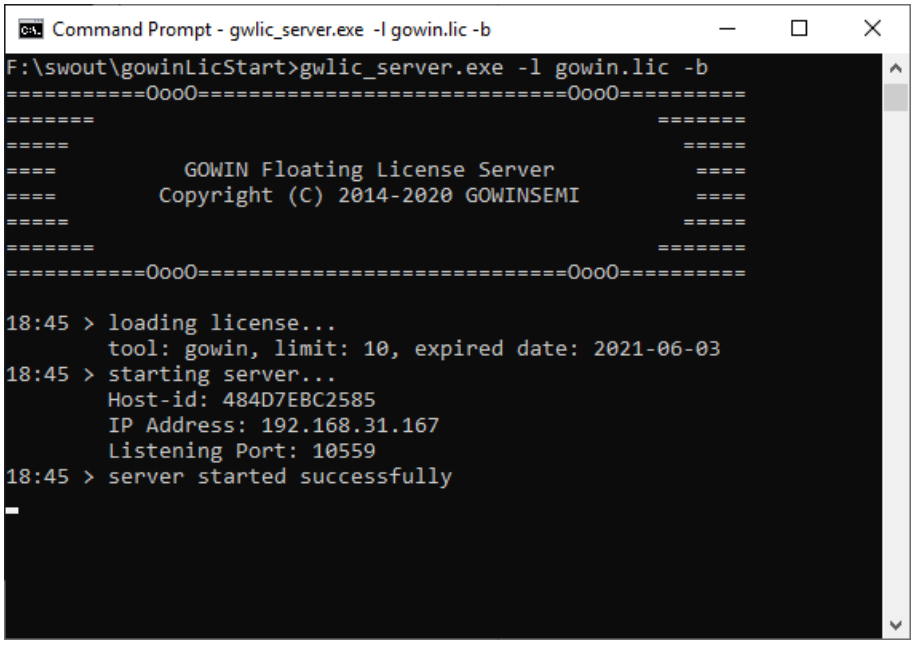
1. Double-click on "gwlic_server.exe"
   Copy the floating license file (such as "gowin_license.lic") to "gwlic_server.exe". Rename the floating license file as "gowin.lic". Double click "gwlic_server.exe".
2. Commands Mode
   In the cmd window, execute the "path\gwlic_server.exe -l path\gowin_license.lic -b", as shown in Figure 4-15 .

   Note!

   -l: load license file;

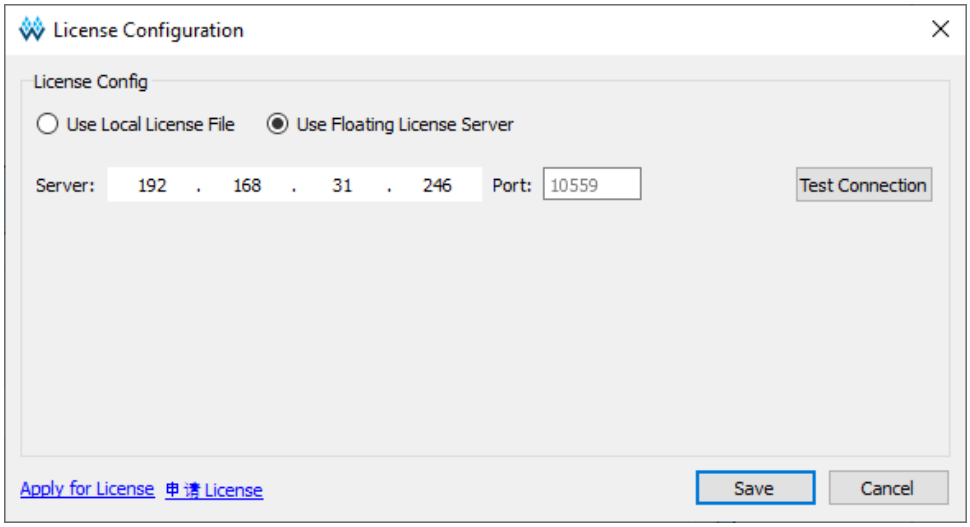
   -b: the license service runs in the background.

Figure 4-15 Gowin Floating License Server Start Interface



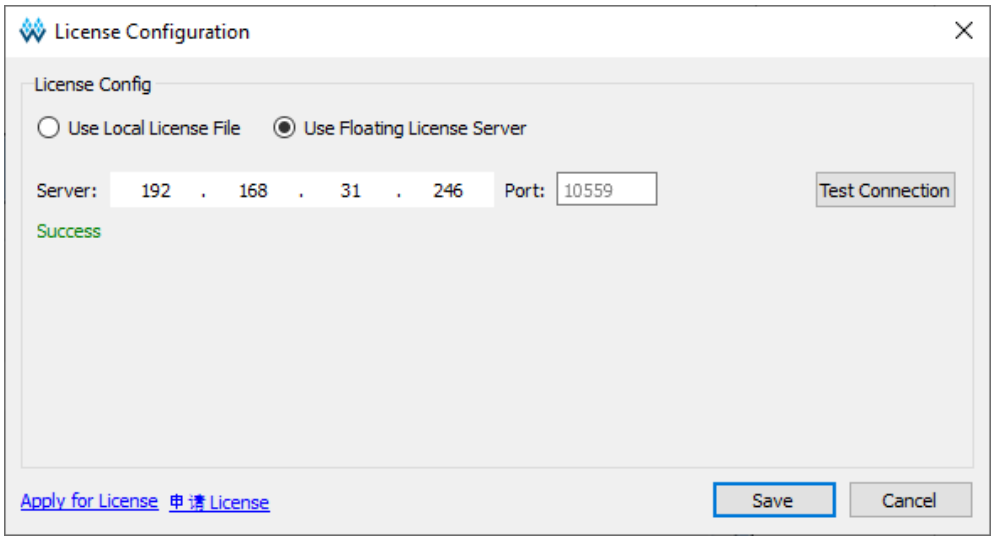
After successfully starting the server, enter the server IP address in the "License Configuration" view, as shown in Figure 4-16.

Figure 4-16 Floating License Configuration Interface



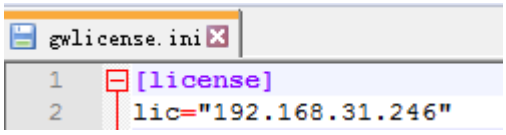
Click the "Test Connection" button on the right to test whether the connection has been successful. If it is successful, "Success" will appear in the "License Configuration" view, as shown in Figure 4-17.

Figure 4-17 Test Connection



No matter what type of license is configured or updated, the software will automatically write the license configuration information to the configuration file "\IDE\bin\gwlicense.ini" in the installation directory, as shown in Figure 4-18 .

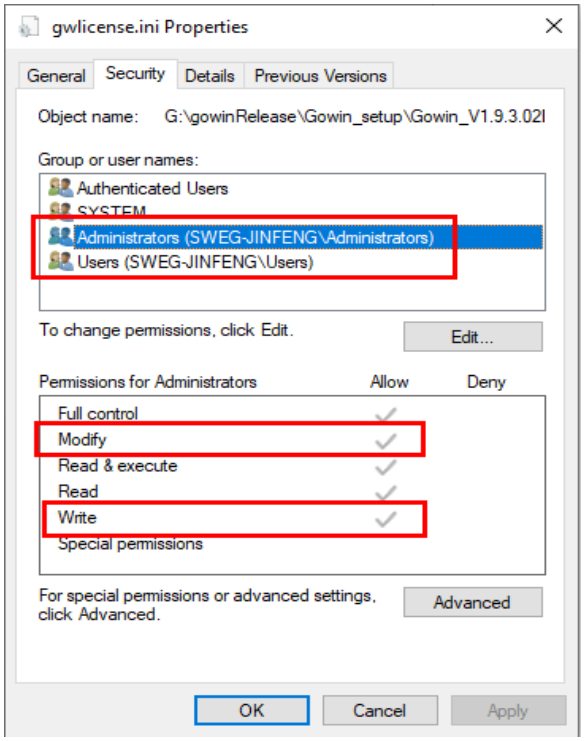
Figure 4-18 License Configuration File



Note!

If the gwlicense.ini file cannot be saved due to the permissions of the configuration file in Gowin software installation directory, click "Save" button, and a prompt will pop up. At this point, you need to add write or modification permissions to the gwlicense.ini file. Right click on the file and select the "Property > Security", as shown in Figure 4-19. After the permissions changed, the license will be configured again.

Figure 4-19 Permission Changed



Use Windows 10 as an example to introduce how to automatically start floating license upon boot.

1. Preparation for batch files
   Create batch files with .bat suffix, such as, "startFloatingLicense.bat". You can write in the file, such as "start path\gwlic_server.exe -l path\gowin.lic –b".

2. Copy batch files to the startup folder
   Open Run dialog box (win +R) and enter "shell:startup", as shown in Figure 4-20. Press Enter to pop up the folder as shown in Figure 4-21 and copy the "startFloatingLicense.bat" to this folder.

Figure 4-20 shell:startup

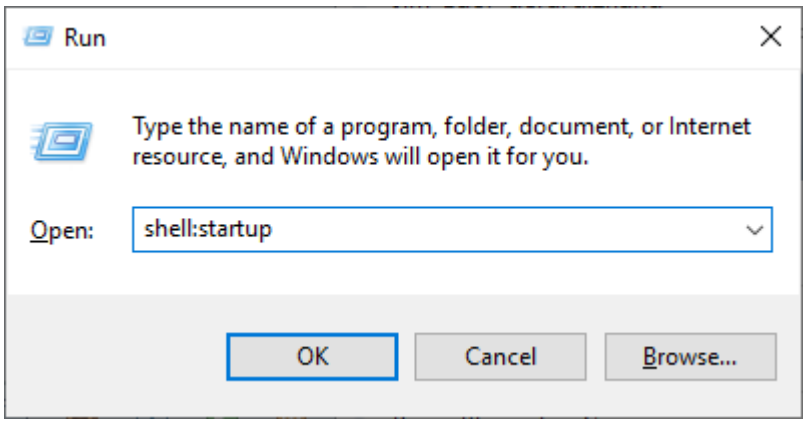
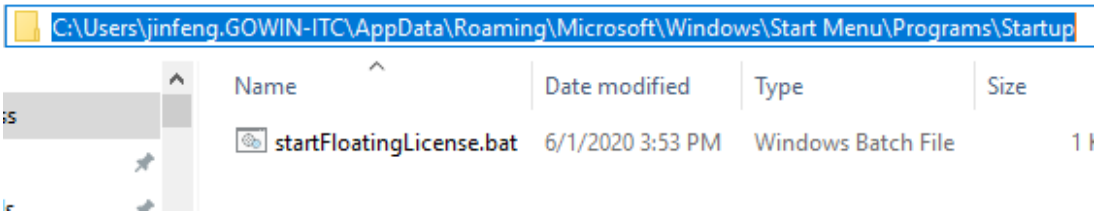
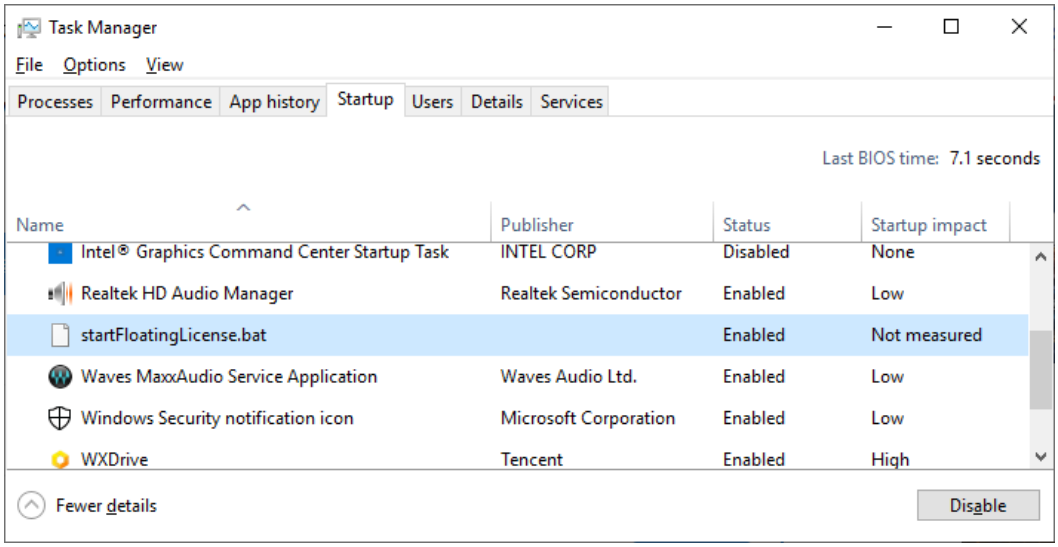


Figure 4-21 Startup Folder



3. Check the setting
   Open task manager to check the setting. If the "startFloatingLicense.bat" is enabled, the setting is successful, as shown in Figure 4-22.

Figure 4-22 Task Manager



Take the Windows10 system as an example to introduce how to automatically create Windows service. The service runs with administrator

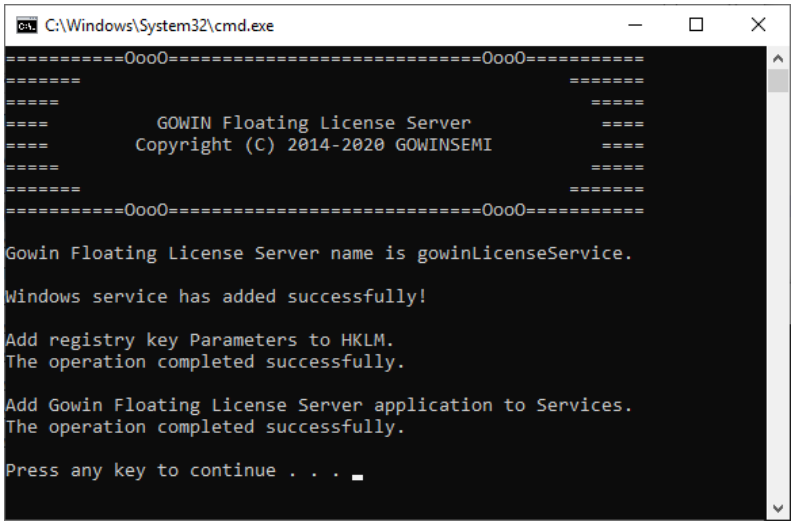
permission and the LAN communication is normal before startup.

Note!

If the LAN communication is not normal, you can try to shut down the system firewall and use the ping command to test whether the LAN communication is normal.

1. Start service
   If you log in to your PC as an administrator, you can right-click to start the batch file "gowinLicenseServiceAdded.bat". Or you can open the command window as an administrator and execute the batch file "gowinLicenseServiceAdded.bat", and a prompt "Windows service has added successfully!" pops up if succeed, as shown in Figure 4-23.

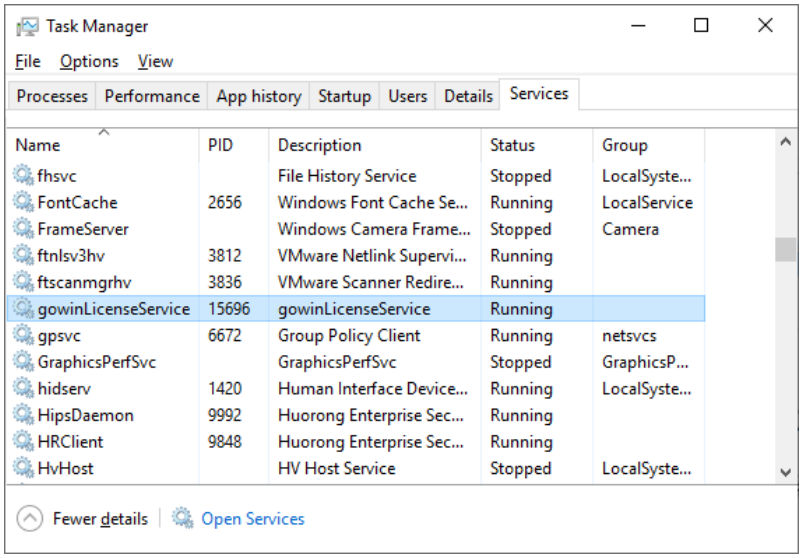
Figure 4-23 Start Service



2. There are four ways to run the service and here it uses the service name "gowinLicenseService" as an example.

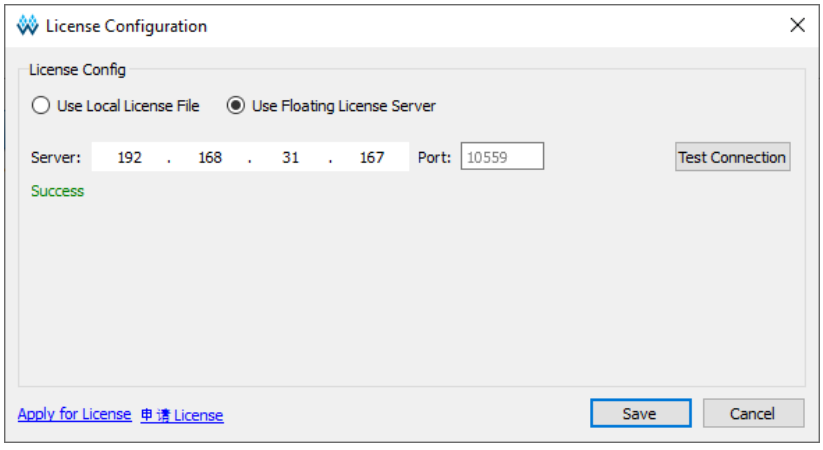
   - The command line: After executing sc start gowinLicenseService, you can check the status through the task manager, as shown in Figure 4-24.

Figure 4-24 Task Manager



- GUI: You can start the task manager and right-click gowinLicenseService to select "Start". It displays "Running" if succeed.
- Restart the system to automatically run the service.
- Test: You can click "Help > License Configuration" on Gowin Software interface to test whether the service runs. As shown in Figure 4-25, the host IP address is 192.168.31.167. You can click "Test Connection", and the prompt "Success" displays, that is, the floating license has been successfully started.

Figure 4-25 License Configuration



Note!

If the test fails, you can check the log file "gwlic_server.log" in the directory where the license file is located.

3. Stop and delete service

- Service stop command: Run sc stop gowinLicenseService in cmd.

- Service delete command: Run sc delete gowinLicenseService in cmd.

4.3 License Configuration: Linux

License setup for Linux, using Ubuntu 18.04 LTS as an example (Other Linux OS installation procedures are very similar).

4.3.1 SynplifyPro License Loading

In the Linux system, only floating license is available for SynplifyPro. Please refer to the following steps for the loading process:

1. Install SCL
   Download "GowinLicenseServerForLinux" file at the website and synplifyPro floating license software is under "synplifyProLicenseStartServer" file.
2. Modify the license file
   - Modify PC name. In the floating license file, modify "hostname1" in "SERVER hostname1 000C293B1A2B 27020" to the PC name, and "27020" is the port number. Modify the license according to the PC in which SynplifyPro is installed.
   - Modify snpslmd path. According to the "snpslmd.exe" path in SCL (SCL\linux64\bin\snpslmd), modify this line "VENDOR snpslmd /path/to/snpslmd" in the license file to the local snpslmd path;
3. License file loading
   In the lmgrd path (SCL\linux64\bin), execute the "./lmgrd -c license.txt -l lic.log" command to generate the log file "lic.log". View the lic.log to verify whether the configuration has been successful. If yes, the file content as shown in 4-8 will appear in the log file.

   Note!

   -l: load license file;

   -b: the license service runs in the background.
4. Configure the Environment Variables
   - For all users, configure the "LM_LICENSE_FILE" environment variable. Open "/etc/profile" file and enter environment variable in this file. The value format should be "Port number @ Host name". For example: export LM_LICENSE_FILE = 27020@gaoyun. After modifying the file, you can run "source /etc/profile" or restart the computer to make the environment variable effective.
   - For current users, configure the "LM_LICENSE_FILE" environment

variable. Open ".bashrc" file in the user's home directory and enter environment variable in this file. The value format should be "Port number @ Host name". For example: export LM_LICENSE_FILE = 27020@gaoyun. After modifying the file, you can run "source ~/.bashrc" or restart the computer to make the environment variable effective.

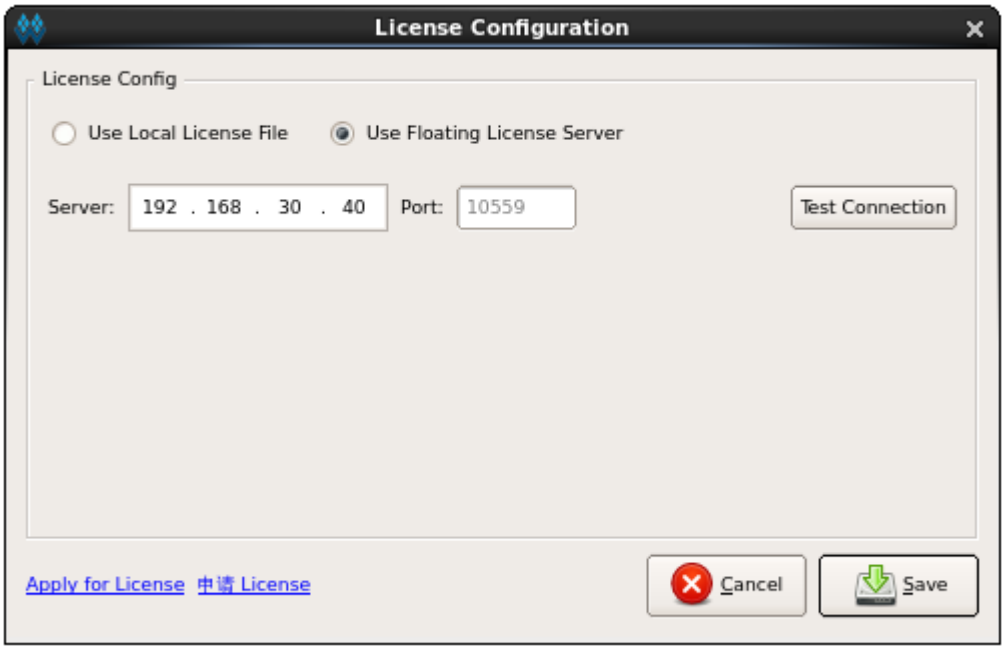
- For the current terminal, configure the "LM_LICENSE_FILE" environment variable, and directly run the export command in terminal to define the environment variable. The value format should be "Port number @ Host name". For example: export LM_LICENSE_FILE = 27020@gaoyun.
- During the license installation, port 27020 is selected by default, which can be modified to the specified port according to the actual needs of users.

4.3.2 Gowin License Loading

Gowin software checks the license automatically when the user opens it. If the license is not correct, the software will not open, and an error message will be displayed, as shown in Figure 4-26. After clicking "OK", the license configuration window pops up, as shown in Figure 4-27.

Figure 4-26 License Error

Figure 4-27 Manage License Options



Node-locked License

For the first time to configure, select "Use Local License File" and click "Browse…" to add the file path for node-locked license, then click "Save", as shown in .

Open Gowin Gowin software. Click "Help > Manage License…" in the menu bar to open the "License Configuration" to update configuration, as shown in Figure 4-27.

Floating License

Start floating license using PnrLicenseStartServer. There are two ways to start:

1. Double-click on "gwlic_server";
   Copy the floating license file (such as gowin_license.lic) to "gwlic_server". Rename the floating license file as "gowin.lic". Double click-on "gwlic_server".
2. Commands Mode
   In the cmd window, execute the "path\gwlic_server -l path\gowin.lic". As shown in Figure 4-28.

Note!

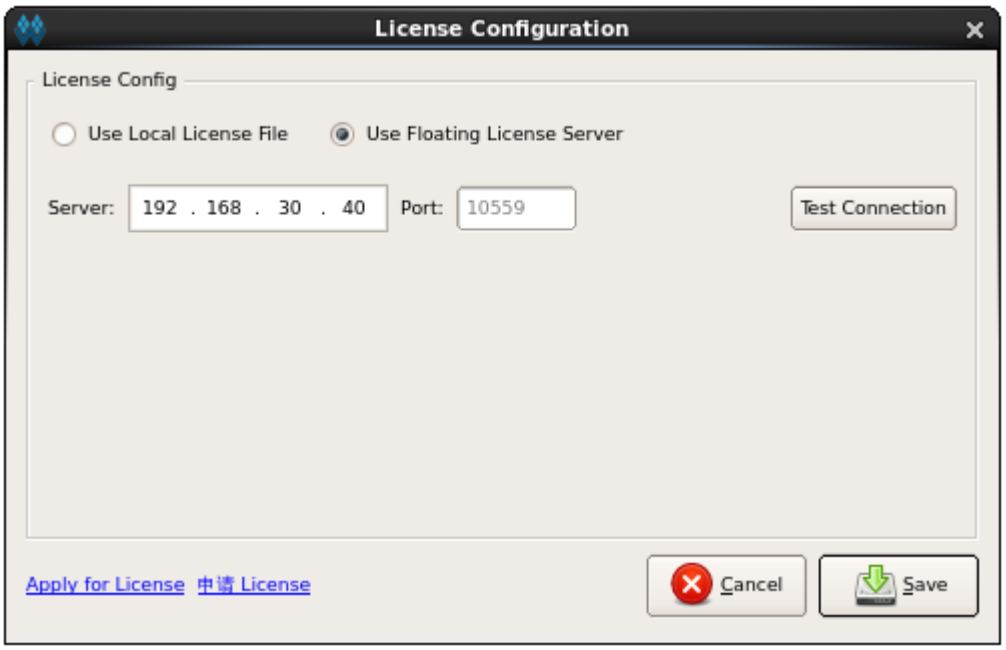
-l: load license file;

Figure 4-28 Gowin Floating License Start Interface

```
[jinfeng@jinan9015 lic_server]$ ./gwlic_server -l gowin.lic
===========OooO=============================OooO==========
=======                                           =======
=====                                               =====
====          GOWIN Floating License Server          ====
====        Copyright (C) 2014-2020 GOWINSEMI        ====
=====                                               =====
=======                                           =======
===========OooO=============================OooO==========

10:46 > loading license...
        tool: gowin, limit: 100, expired date: 2021-03-27
10:46 > starting server...
        Host-id: 484D7EBC24D3
        IP Address: 192.168.30.15
        Listening Port: 10559
10:46 > server started successfully
```

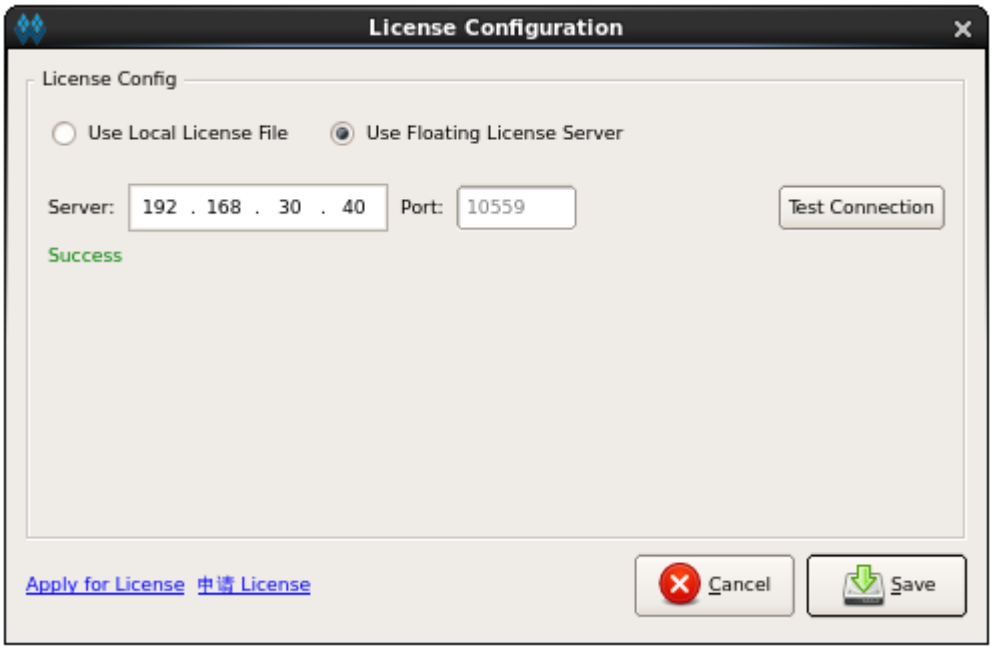
After successfully starting the server, enter the server IP address in the "License Configuration" view, as shown in Figure 4-29.

Figure 4-29 Floating License Configuration Interface



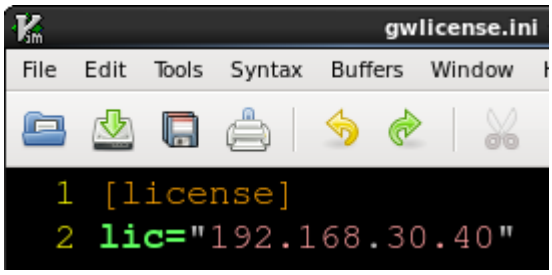
Click the "Test Connection" button on the right to test whether the connection has been successful. If it is successful, "Success" will appear in the "License Configuration" view, as shown in Figure 4-30.

Figure 4-30 Test Connection



No matter what type of license is configured or updated, the software will automatically write the license configuration information to the configuration file "\IDE\bin\gwlicense.ini" in the installation directory, as shown in Figure 4-31 .

Figure 4-31 License Configuration File



Note!

If the gwlicense.ini file cannot be saved due to the permissions of the configuration file in Gowin software installation directory, click "Save" button, and a prompt will pop up. At this point, we need to add write permissions to the gwlicense.ini file. Execute the command "chmod +x <file>" in the terminal to modify the file permission.

5 Start

5.1 Start Software in Windows

Take Windows 10 system as an example.

5.1.1 GUI Mode

- Double click the shortcut " " to start Gowin software;
- Double click "gw_id.exe" file in \x.x\IDE\bin" directory;
- Open the cmd window and enter "install directory\x.x\IDE\bin\ gw_id.exe", such as "E:\Gowin\ gowin_v1.9.5Beta\IDE\bin\ gw_id.exe";
- Double-click on the project file ".gprj".

5.1.2 Commands Mode

In the cmd window, enter "path\IDE\bin\gw_sh.exe". See appendix A of SUG100, Gowin Software User Guide

5.2 Start Software in Linux

Take Ubuntu 18.04 LTS system for an example.

5.2.1 GUI Mode

- Double click "gw_ide" file in "install directory\x.x\IDE\bin";
- Run the command in terminal: path/x.x.xBeta/IDE/bin/gw_ide.

5.2.2 Commands Mode

In the terminal, enter "path\IDE\bin\gw_sh". See appendix A of

SUG100, Gowin Software User Guide

6 Exit

6.1 Exit Software in Windows System

There are two ways to exit software:

- Select "File > Exit";
- Click the " " icon on the upper right of the software.

6.2 Exit Software in Linux System

There are two ways to exit software:

- Select "File > Exit";
- Click the " " icon on the upper right of the software.

GOWIN
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