LICENSE4J FLOATING LICENSE SERVER USER GUIDE

VERSION 4.4.0

LICENSE4J

www.license4j.com

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Getting Started

Floating licensing also known as concurrent licensing allows many users to share a limited number of licenses. All users may have software installed but only limited number of users can run software concurrently. Floating licensing requires a server application to handle license requests and control license usage.

License4J Floating License Server and Runtime Library has provides all requirements to implement floating licensing for software publishers.

Floating License Usage

License Manager GUI is has a wizard to generate licenses, and when floating license text type is selected, required steps are displayed for defining floating license features. There are two important steps for standard license features and floating license features.

As in the screenshot above, license quantity, product edition and version, license validity and maintenance periods can be defined. Hardware ID field is mandatory and target floating license server hardware ID must be specified. License generation time can be defined in the past or future for special requirements. If license generation time is defined in the future, license cannot be installed and invalid license error returns.

When license is expired after validity period, it is still leased to clients but expired license status is obtained after validation.

The working internals for floating license is defined in the fifth step as in the screenshot above.

License Check Period defines time interval in minutes which Runtime Library will connect to floating license server to re-validate license to check for its expiration time, lease status and its existence.

License Server Connection Check Period defines time interval in minutes to acknowledge that client is still using the license and updates last connection time on server. If time interval between current time and client last connection time is more

than defined value, then license lease is removed and license becomes free for other clients. This feature will be useful in client network connection problems or at unexpected power down. Default value for server connection check period is 1440 minutes if not defined in license generation. This setting also defines a timer task period on Floating License Server to check for inactivate clients.

These license and server check methods ensures that both license server and client is connected with a network and license usage is correctly controlled and monitored. As explained in License Manager GUI User Guide, *LicenseValidator.validate* method for a floating license has license valid/invalid handler and server connection error handler arguments, these handlers are run when license validity changes or server connection status goes down; so product may be blocked in runtime if required. Basic default handlers are available in Runtime Library and also interface classes is available and can be used to implement custom handlers to manage license.

Installation

Floating License Server has an installer for Windows, Linux/UNIX version is a compressed package, it is enough to decompress and run a simple script on Linux/UNIX. It runs as a service on operating system. Windows installation includes required Java Runtime, so can be installed and used with a single installer.

Windows Installation

Standard windows setup file is provided for Floating License Server installation on windows. Run setup file and continue with instructions.

On this window you must accept the license agreement to continue.
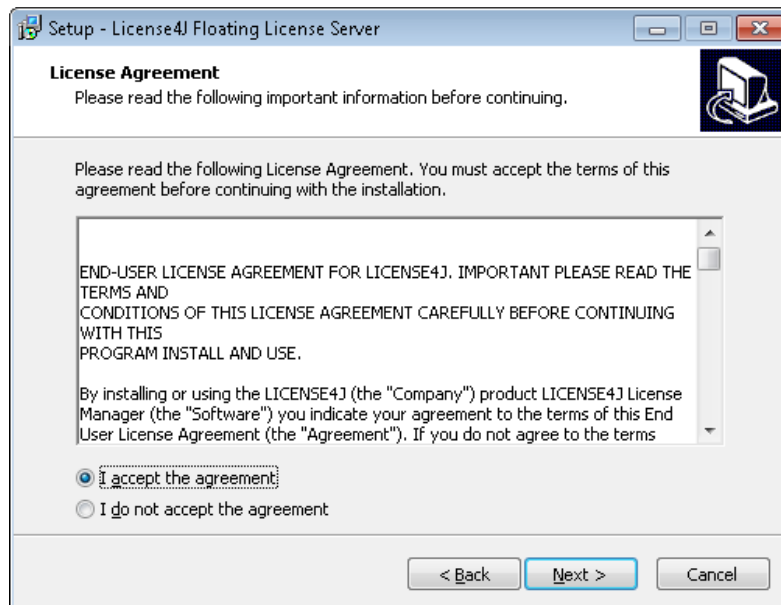
Select or accept the installation folder.
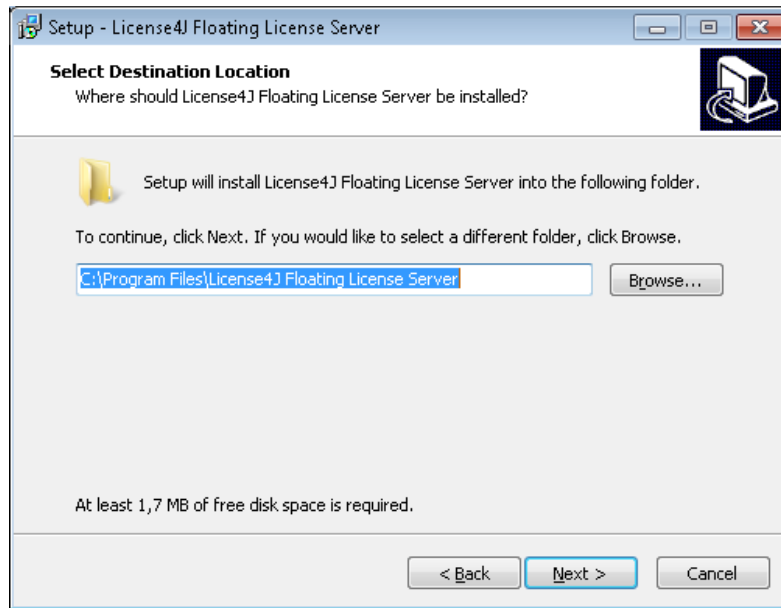
Setup includes two components; first one is Floating License Server Installation, which installs license server service and management GUI tool. The second one is management GUI tool installation which installs only the management GUI tool.

If you are installing license server, select the Floating License Server Installation option as in the screenshot below.

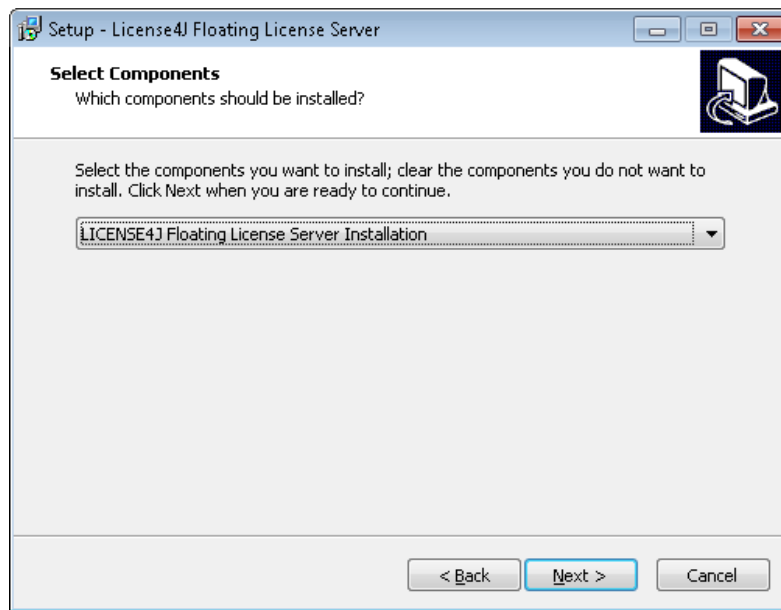Floating License Server management GUI tool can be installed on computers other than server to manage licenses. If you are installing on a management client select Floating License Server Management GUI Installation options as in the screenshot below. This option is generally installed for some users with administrator roles in the organization.
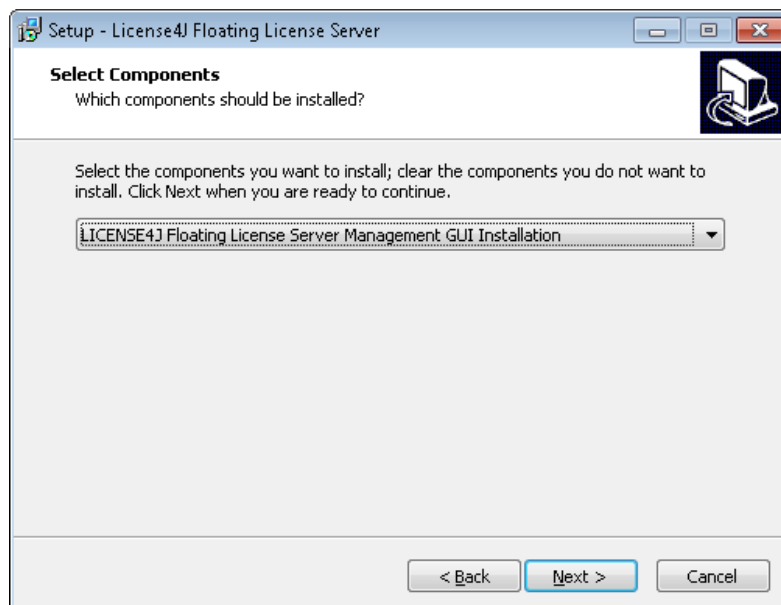
A screen giving a summary of installation appears, then installation begins.
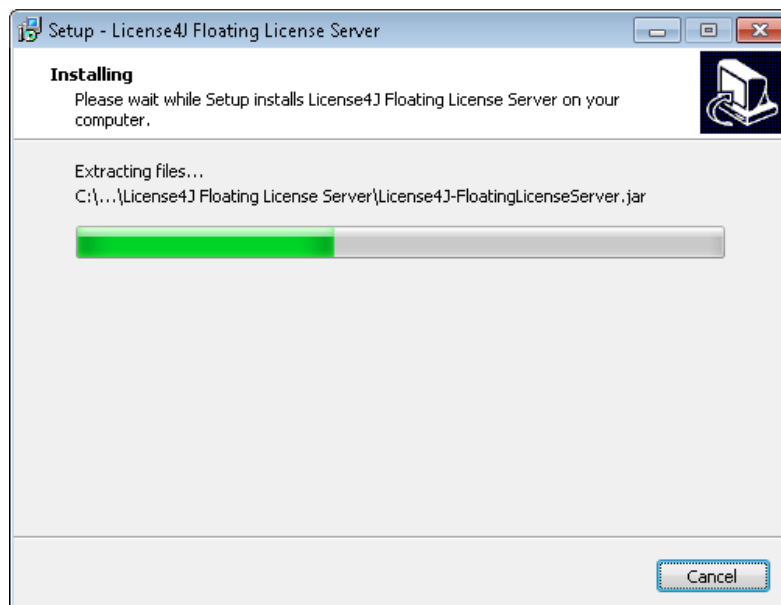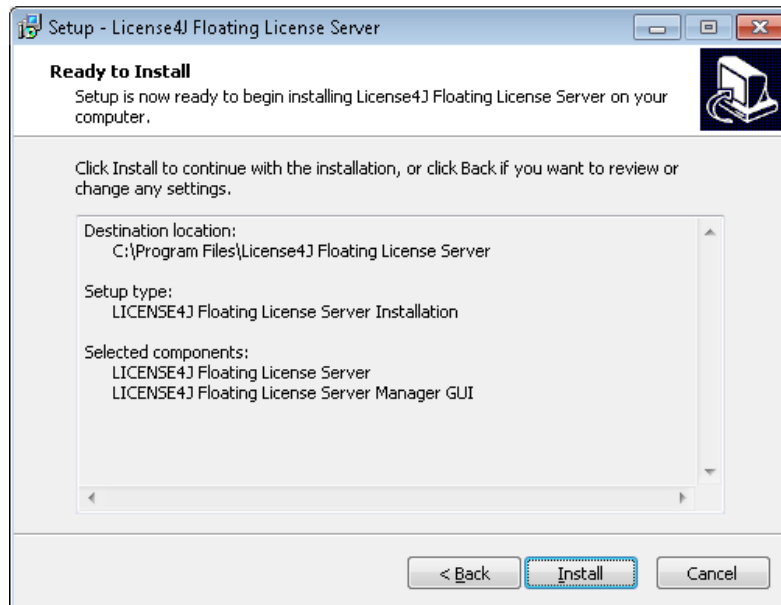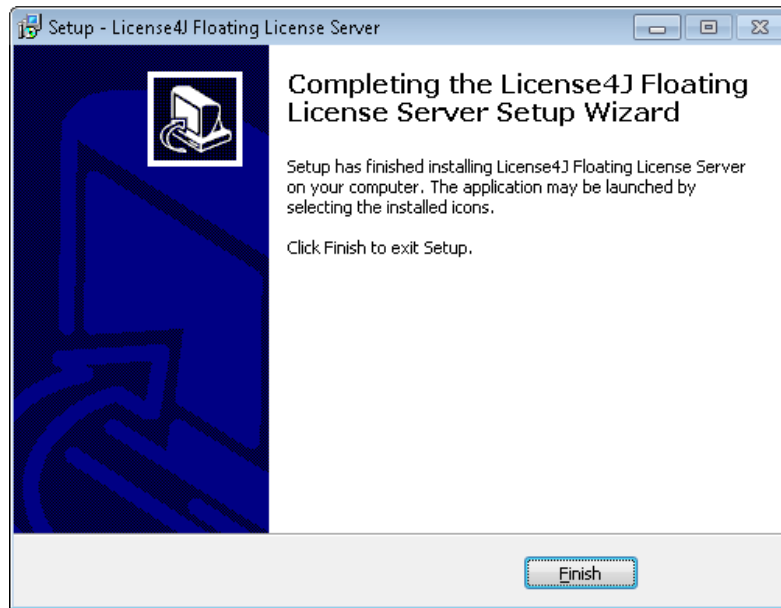
After installation completed, all required files are copied and a windows service is installed. A program folder is created in start menu for license server administration GUI tool.

Linux Installation with the Installer

Floating License Server has an installer for Linux OS, and it includes a Java Runtime. If you download the file *floatinglicenseserver-linux-installer.tgz*, decompress the file and run the executable file *FloatingLiceseServer-Setup.run* for installation. Script will ask for installation path and complete, but it does not modify system startup files in any way to install the floating license server service, if you want to start the service on system startup, you need to modify required startup files to include *service.sh* script.

Linux and Mac OS Installation without the Installer

The download package without an installer can be used on both Linux and Mac OS. This download package does not include a Java Runtime. Installation process has

two steps; first decompress *floatinglicenseserver-linuxmacos.tgz* file; second set Java path and execute the service script.

Use standard gzip and tar commands to extract contents:

gzip -d floatinglicenseserver-linuxmacos.tgz

tar –xvf floatinglicenseserver-linuxmacos.tar

After extracting you will have the directory named as *floatinglicenseserver*. Copy or move this directory to any place on Linux/UNIX server like */usr/local/ floatinglicenseserver.*

NOTE: One important step is required for license server to run which is that you must edit **service.sh** and **gui.sh** file and set JAVA variable according to your system like below:

 # SET YOUR JAVA PATH HERE

#

JAVA=/usr/local/jdk1.6.0_11

Then run the *service.sh* with arguments *start*, *stop* or *restart* on Linux.

./service.sh stop: to start the license server.

./service.sh start: to stop the license server.

./service.sh restart: to re-start the license server.

For Mac OS operating system there is no service configuration available, it should be run directory from Jar file.

Mac OS command: *java –jar FloatingLicenseServer.jar start*

To start the management GUI tool, run the **gui.sh** script.

Floating License Server Manager

With Floating License Server Administration GUI tool, you can perform following tasks:

- Display installed licenses and active users obtained each license separately.
- Configure license server (only on local connections).
- Add and remove licenses.
- Display license details.
- Display floating license server hardware id.
- Get a basic license usage report.

After connecting to a license server you will see a window as in the screenshot below.
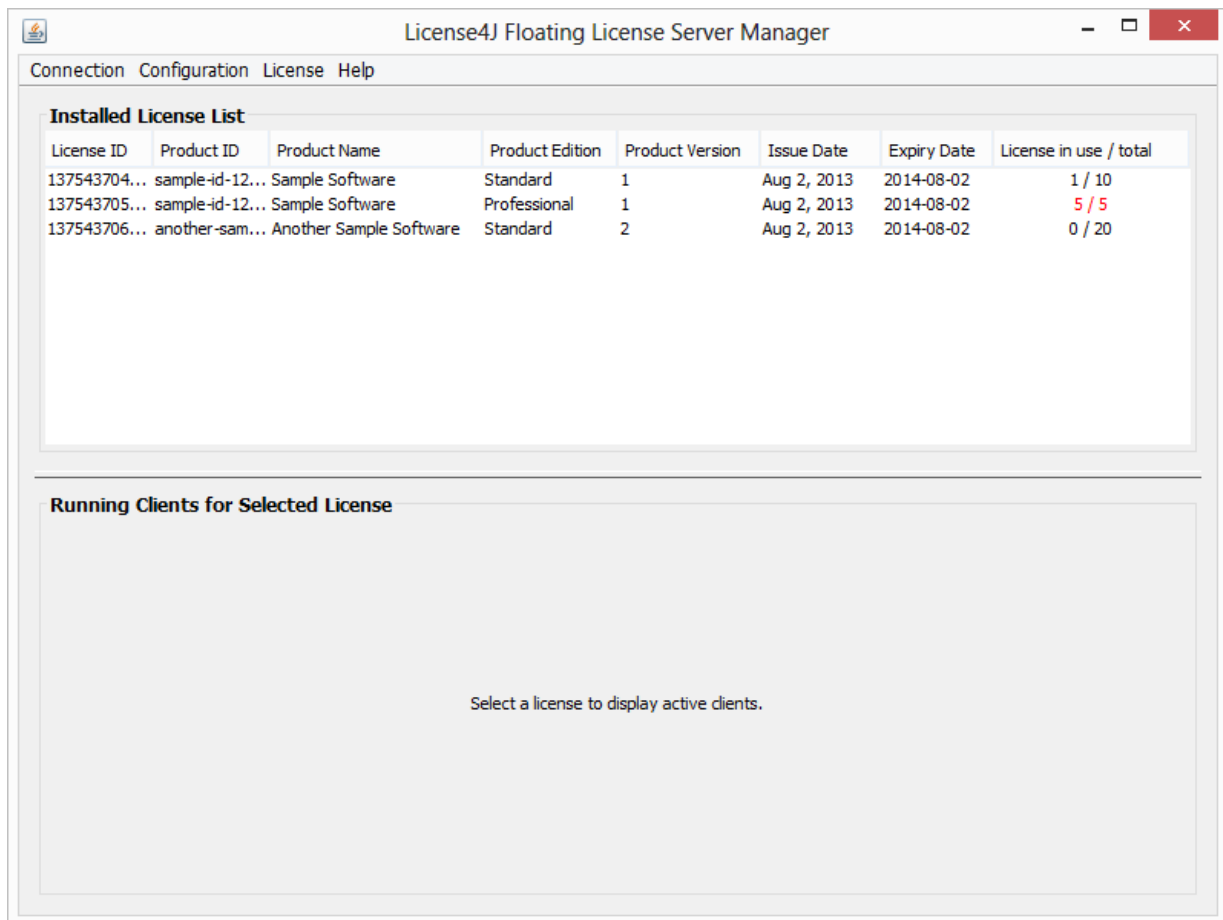
The window includes two tables. Upper table displays installed licenses; the bottom table is enabled when you click on a license; and it displays active users obtained the selected license.

If generated floating license allows running multiple instances of application on same host by same user, only one license is consumed and all client instances are displayed in client table; otherwise one license is consumed for each instance of running application. This feature prevents users to exceed floating license count by using same computer with the same user id with a remote connection.
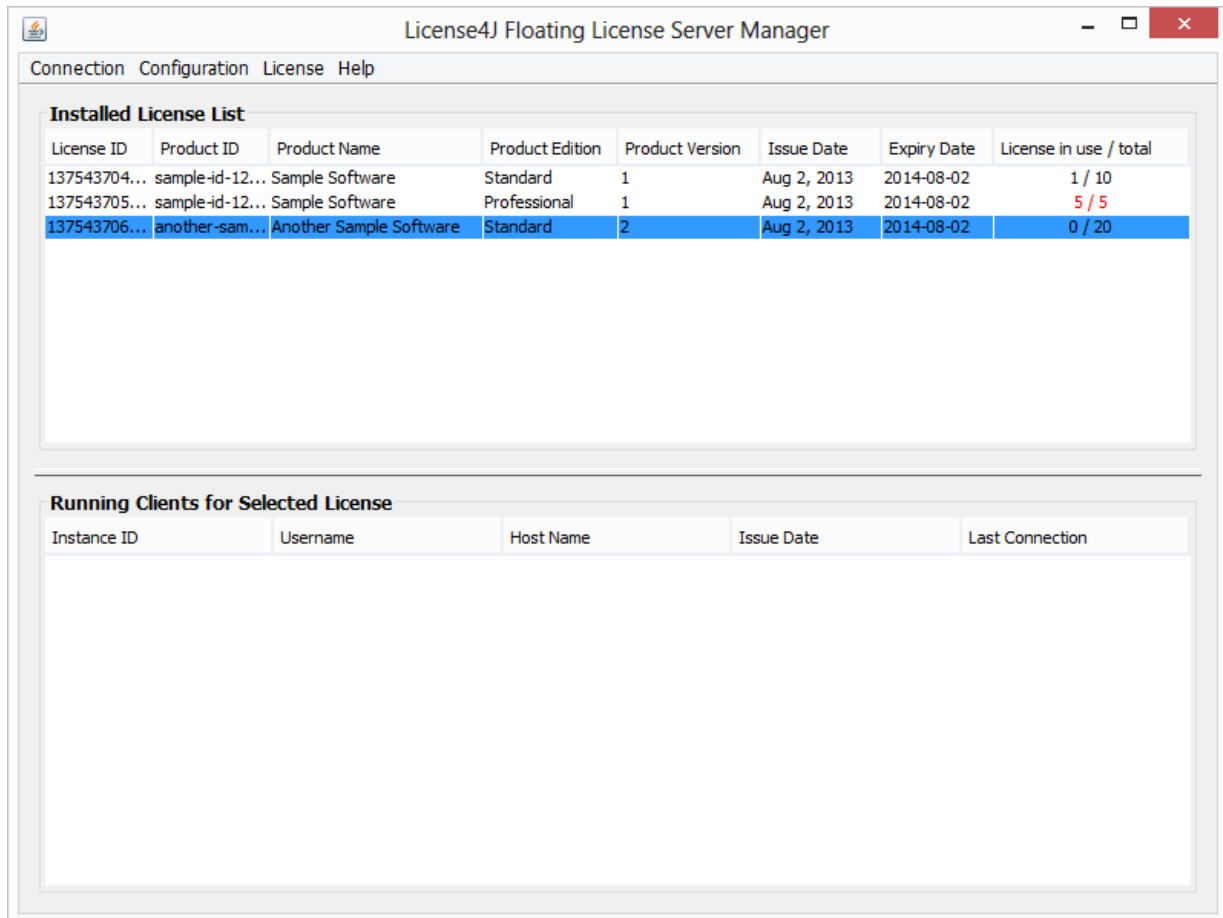
After version 4.4.0, floating licenses can be superseded by other floating licenses to replace or modify some license features. If license ID is displayed in red text color in installed license list table, it means that license is superseded by another license. Details are displayed in license view window.
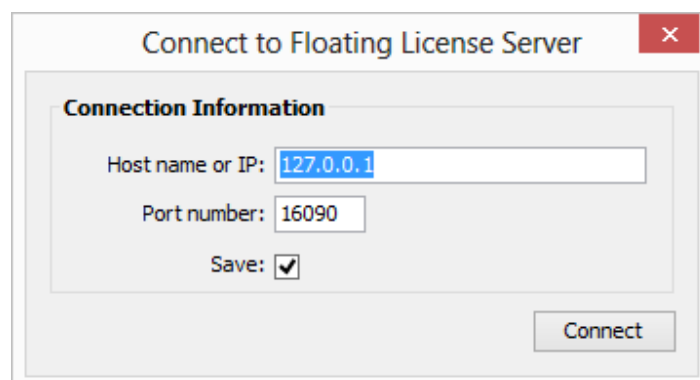
Both tables are refreshed on each 5 seconds, so changes are displayed at most 5 seconds later on tables.

License Server Connection
The window below displayed when you run Floating License Server Manager.
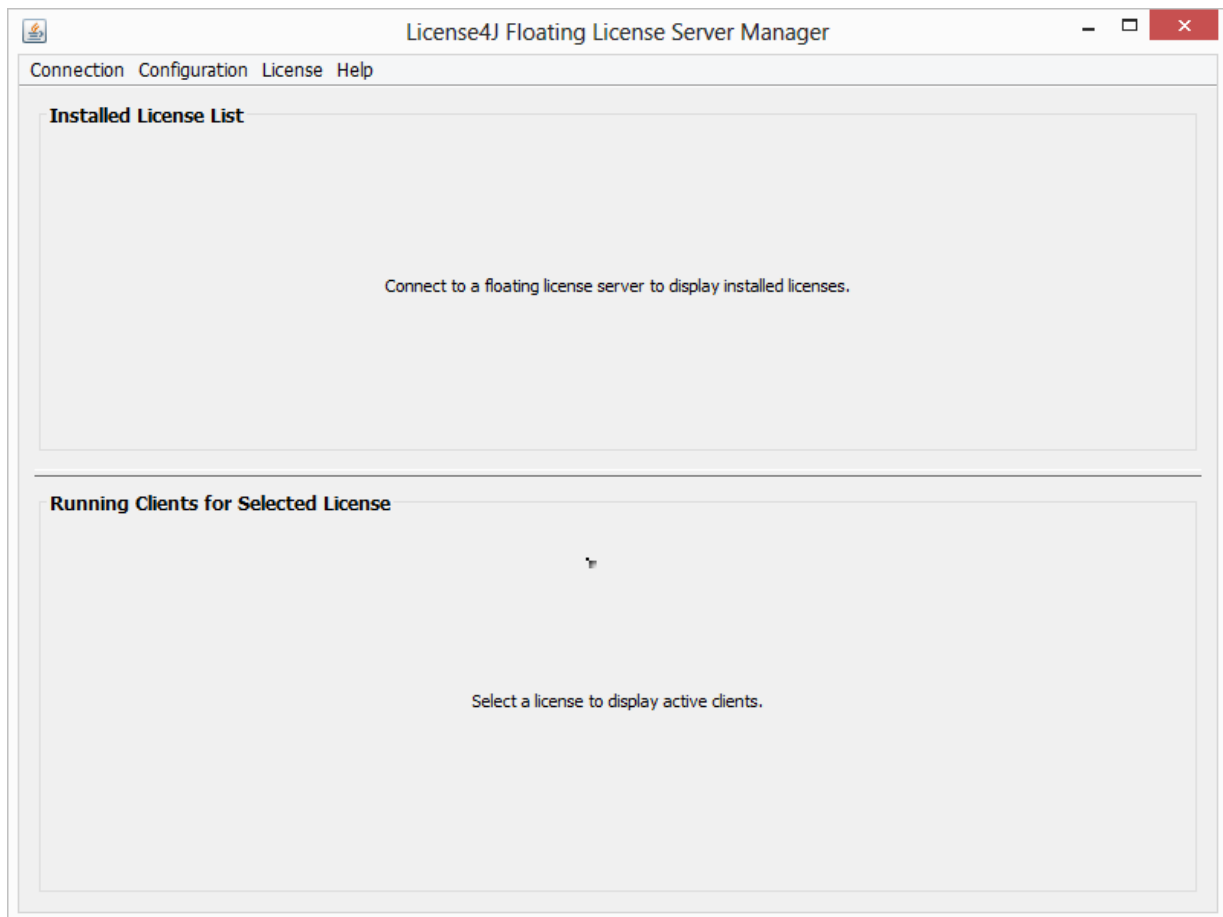
You should first connect to license server by using *Connect* menu item in Connection menu.

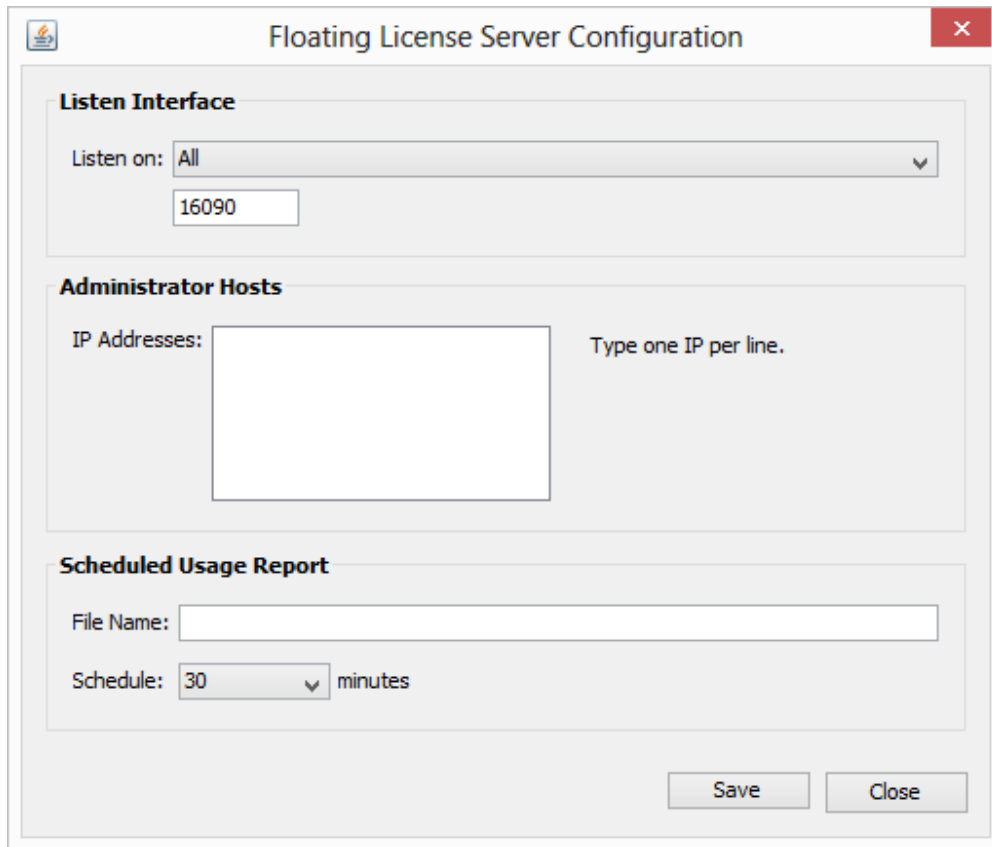You should supply Hostname or IP address and port number, and if you like you can save connection info.

While administration GUI running and connected to the server, if server goes down or any network problem occurs administration GUI automatically disconnects and following screenshot displayed. It takes at most 10 seconds to detect a connection problem.
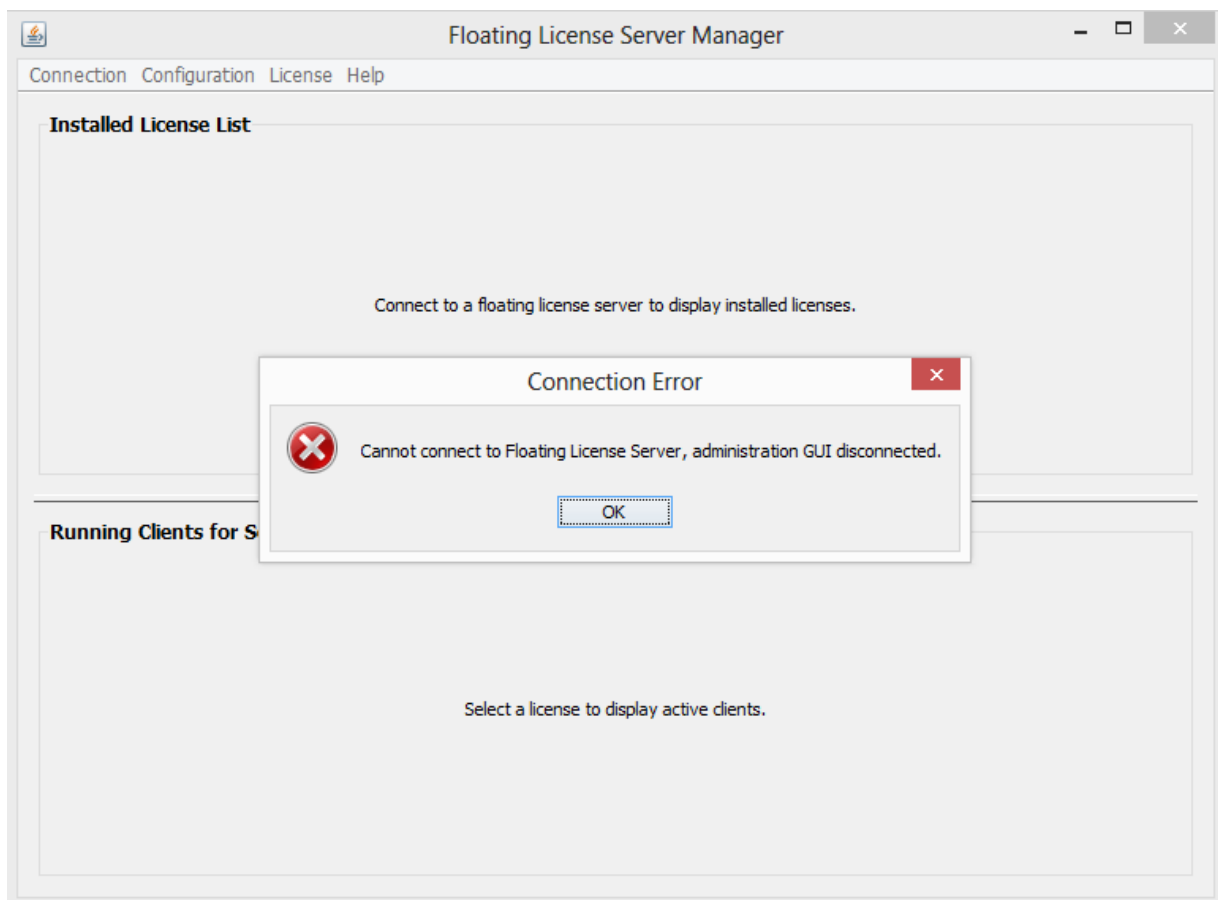
License Server Configuration

You can use Floating License Server Manager to configure server if you are running on the same machine with license server (connected through 127.0.0.1 or localhost).

The configuration window below will be displayed when you click on Server Configuration menu item.

In this configuration window, you can set interface for license server to listen on, and port number. By default license server listens on all interfaces and port number 16090. Administrator Hosts are defined in the text area with their IP addresses. These hosts can use floating license server manager GUI and will have permission to install and delete licenses. When you click on save button, it will prompt you to restart license server service for changes to take effect.
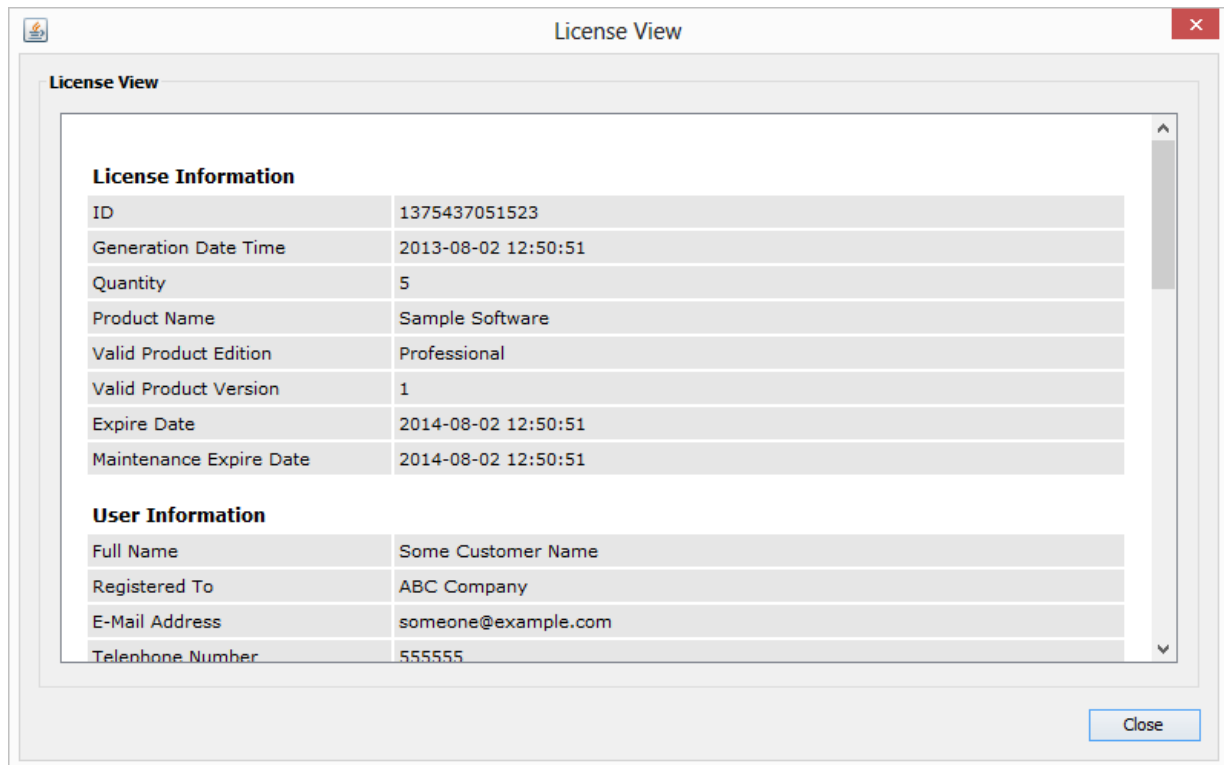
Adding and Removing Licenses

License file installation is performed with *Install New License* menu item in License menu. When you click on menu item, a file browser opens and selected license file is sent to license server and installed if it passes license check.

You can delete an installed license with *Delete Selected License* menu item. Deleted license files cannot be recovered later.

Displaying License Details

Installed license details can be displayed with *Display License* menu item, or with a double click on license. A window with license details will come up as below.
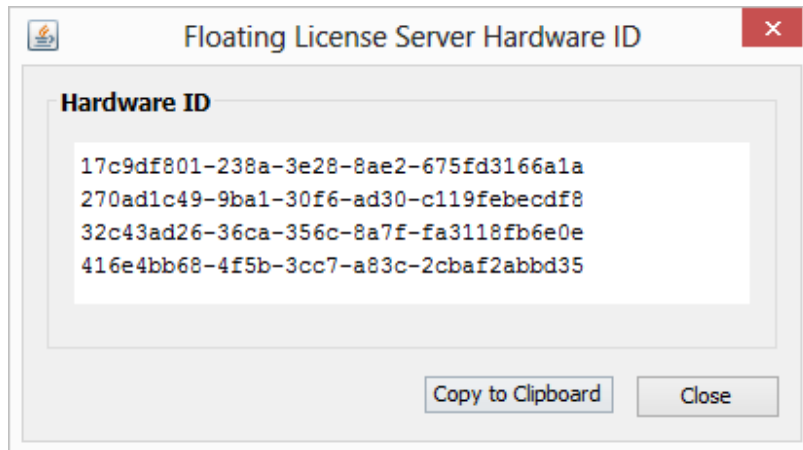

Displaying License Server Hardware IDs

Display Server Hardware ID menu item in License menu is used to get hardware IDs of floating license server. All available hardware ID types are displayed (hostname, Ethernet address, disk volume number, and disk serial number), any of them or a combination can be used to generate a license.

Basic License Usage Report

Save License Usage Report menu item in *License* menu save current license usage to a text file. Floating license server also saves usage report to a defined text file in selected periods if configured in server configuration window as in the screenshot below.

Floating License Server Customization (Windows)

Floating License Server can be fully customized, and localized to support languages other than English. Floating License Server Customization package is sent with e-mail when requested, and it is free of charge. Package includes InnoSetup script to create your own custom installer, a Launch4J configuration file to create an exe file for administration GUI, and sample customization files. All strings in server and administration GUI can be changed with simple properties files, about box image is also defined in property file for administration GUI.

There are two options to place custom properties files and about box image. The first option is to add custom properties files and about box image inside jar files (*FloatingLicenseServer.jar* and *FloatingLicenseServerAdmin.jar*); so they cannot be easily viewed by customers. The second option is to add files in the *config* directory.

Steps to customize are as follows.

1. Add *LocalizationAndCustomFile* keyword to *guiconfig.ini* and *serverconfig.ini* files and define custom properties files. *jar:* is a keyword to indicate that files are added inside jar file.

   Option1 inside jar: *LocalizationAndCustomFile=jar:mycustom.properties*
   Defined properties will be searched in
   /com/license4j/floatinglicenseserver/gui/resources for administration GUI,
   and in */com/license4j/floatinglicenseserver/server/resources* for license server.

   Option 2 in config directory: *LocalizationAndCustomFile=mycustom.properties*
2. If you use option 1, use jar command with *uf* options to add your custom properties files and about box image inside jar files and update.
3. If you use option 2, add your files in your config directory and update InnoSetup script to include these new files.
4. (Optional) Update installService.bat and uninstallService.bat files if you want to change installed service name (default: Floating License Server)
5. Create setup file by running InnoSetup script.

Floating License Server Customization (Linux)

Floating License Server Linux download package use makeself to make a self-extracting installer. Linux customization package includes required information about running makeself software. The jar file and/or properties files customization is same with the Windows customization package.

Error and Access Logging

Floating License Server and Management GUI logs errors and access logs in system program data folder on Windows.

(e.g. C:\ProgramData\Floating License Server\logs\)

On Linux and Mac OS log file is saved in the current path which Floating License Server and Management GUI is running.

Floating License Server generates two logs files names as *server-error.txt* and *server-access.txt*. Server access logs like license lease, license release, license install and delete can be found in access log file. If any error/exception occurs it is logged in error log file and includes error codes to easily identify problem. Administration GUI error log file name is *gu-error.txt* and includes exceptions caught while running.

Floating License Server License

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Details on licensing can be found in END-USER LICENSE AGREEMENT which is found in EULA.txt file.

End of document.