Scientific Software for Modelling of Chemical Kinetic Systems

MANUAL

License Setup

LOGERESEARCH version 1.10

Last revised: February 4, 2022

CONTENTS

1

LOGERESEARCH
LICENSING

LOGERESEARCH uses Flexera software to manage licenses and can run with both network and local licenses. This guide will help you install and setup FlexLM for easy usage of LOGERESEARCH.

Please note that the license server does not need to run on a machine with the same operating system as your local LOGERESEARCH installation. It is therefore recommended to consult both the Linux and Windows sections of this manual.

1.1 License File Creation

In order to have a license file created the following information has be be supplied to your LOGERESEARCH reseller:

- Full contact information (company name and address, contact person, phone number and e-mail address)

- Desired number of license seats and duration of validity

- Information about the intended license server(s) (see below)

To retrieve the relevant information for license file creation, the executable `lmhostid` (Linux) or `lmhostid.exe` (Windows) must be run. `lmhostid(.exe)` is available for download at the LOGE website.

1.2 Editing the License File

As a precaution, **save a copy** of the license file before making any changes to avoid irreversible errors.

By default the license file looks something like this:

```
SERVER computername lmhostid
VENDOR LOGE /path/to/vendor/daemon
USE\_SERVER
FEATURE LOGEOD LOGE 2.0 31-sep-2017 X SIGN="..."
FEATURE LOGEHPC LOGE 2.0 31-sep-2017 uncounted HOSTID=ANY SIGN="..."
```

where `lmhostid` is set to the lmhostid for the license server. **Change `computername` so that it corresponds to the name/ip-address of the license server**.

If you want to force the license server to communicate with clients over a specific port (this is recommended if the license server is supposed to be accessible from other machines), you may edit the line beginning with `SERVER` so that it looks like this instead:

```
SERVER computername lmhostid 1234
```

where 1324 should be the number of the port on which you wish for license server communication to take place.

The line starting with `VENDOR` needs to be modified so that `/path/to/vendor` contains the full path to the LOGERESEARCH vendor daemon `LOGE` (Linux) or `LOGE.exe` (Windows). By default, the vendor daemon is located in the `UserFiles/LicenseFiles/tools` directory of the LOGERE-SEARCH installation directory.

When using a firewall it is recommended to also set a port number for the vendor daemon to use. This is done by adding `PORT=5678` to the end of the line starting with `VENDOR`. Configure the firewall so that the dedicated communication ports are open and accessible to other machines.

2

Linux

By default all license tools are located in `UserFiles/LicenseFiles/tools` of the LOGERESEARCH installation directory.

2.1 Set Environment Variables

For the licensing software to function correctly, an environment variable called either `LOGE_LICENSE_FILE` or `LM_LICENSE_FILE` needs to be set. When running locally (LOGERESEARCH and the license server are running on the same machine), it is sufficient to set `LOGE_LICENSE_FILE` to contain the full path to the license file:

```
export LOGE_LICENSE_FILE=/opt/logeresearch/flexlm/license.dat
```

If the license is to be checked out from another machine via a network, `LOGE_LICENSE_FILE` should instead be set like this:

```
export LOGE_LICENSE_FILE=1234@server
```

where 1234 is the port number on which the license server is expecting requests (see Section 1.2) and `server` is the name or ip-address of the machine acting as license server.

If the license checkout is slow, it might help to also set the environment variable `FNP_IP_ENV`:

```
export FNP_IP_ENV=1
```

To make sure that the license relevent environment variables are set at login, edit the file `$HOME/.flexlmrc` and assign `LOGE_LICENSE_FILE` and, optionally `FNP_IP_ENV`, there.

2.2   Start the License Server

From the license manager directory (`%LOGERESEARCH install dir%/UserFiles/LicenseFiles/tools` by default), issue the command

```
./lmgrd -c <full path to license file> -l <full path to license debug log file> &
```

   If server startup was successful, the specified license log file should contain no error messages and `lmgrd` and `LOGE` should both be visible in the list of active processes.

3

3.1 Local License Server Configuration

If you will be checking out a license from another computer (network/floating license), you may skip this section and proceed to Section 3.2.

By default all license tools are located in `UserFiles/LicenseFiles/tools` of the LOGE RE-SEARCH installation directory. To configure the license server with local hosting, launch the executable `lmtools.exe`.

On the `Services/License` tab, **make sure that the *Configuration using Services* option is selected**, see Figure 3.1.
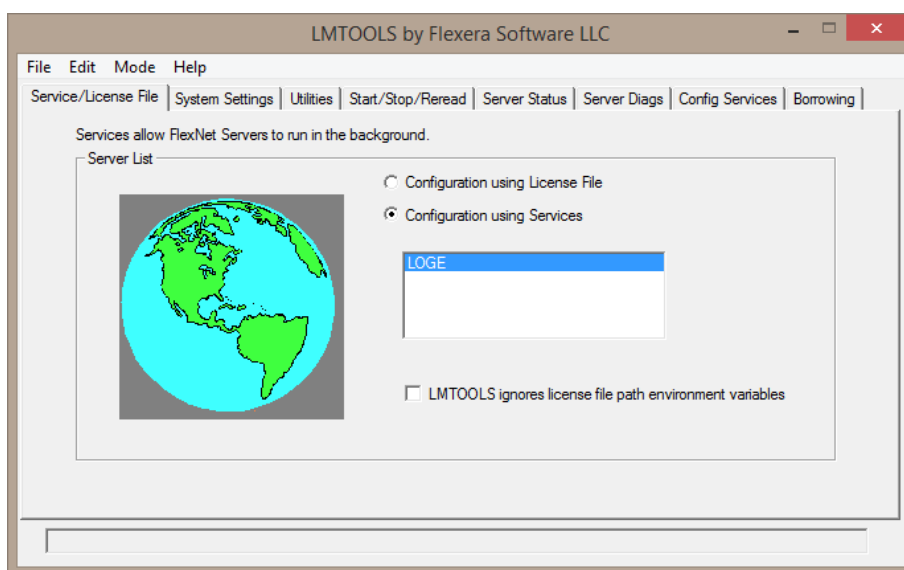
Figure 3.1: Make sure that the *Configuration using Services* option is selected.

Go to the *Config Services* **tab and type** `LOGERESEARCH` **in the** *Service Name* **field**. If there already is another service configured, just replace the current text with `LOGERESEARCH`, the services will be saved separately.

Set the paths to `lmgrd.exe` **and to the license file**. Note that you may have to specify the file format when browsing for the license file.

Add a path to a debug log file, for example `C:\Users\you\Flexera\license.log`. If the file does not already exist, it will be created automatically.

Finally, **make sure that the** *Use Services* **and** *Start Server at Power Up* **boxes are ticked** (note that the *Start Server at Power Up* box only becomes active once *Use Services* has been checked). **Click the** *Save Service* **button and click** *Yes* **when asked to confirm**, see Figure 3.2.

Figure 3.2: Specify license file, debug log file and path to `lmgrd.exe`.

Go to the *Start/Stop/Reread* **tab, make sure the** `LOGERESEARCH` **service is selected and click the** *Start Server* **button**. On the *Service/License File* tab, `LOGERESEARCH` should now be listed. The license server is now configured but not yet running. **Leave** `lmgrd.exe` **open**.

3.2   Set Environment Variables

Note that you must have administrator privileges to set environment variables!

Go to the *Control Panel* **and open the** *Environment Variables* **panel**, see Figure 3.3. *Exactly how to do this depends on the Windows distribution you are running.*

For the license checkout to work as intended at least one of `LOGE_LICENSE_FILE` or `LM_LICENSE_FILE` need to be set. If neither of the necessary environment variables exist, click *New* and specify `LOGE_LICENSE_FILE`.

If you are hosting the license server locally, `LOGE_LICENSE_FILE` should contain the full path to the license file. If you are checking out the license from another computer, set `LOGE_LICENSE_FILE` to *portnumber@licenseserver* where *portnumber* is the port on which the license server is expecting communication (see Section 1.2) and *licenseserver* is the name or ip-address of the machine acting as license server.

Close the *Environment Variables* **panel**.
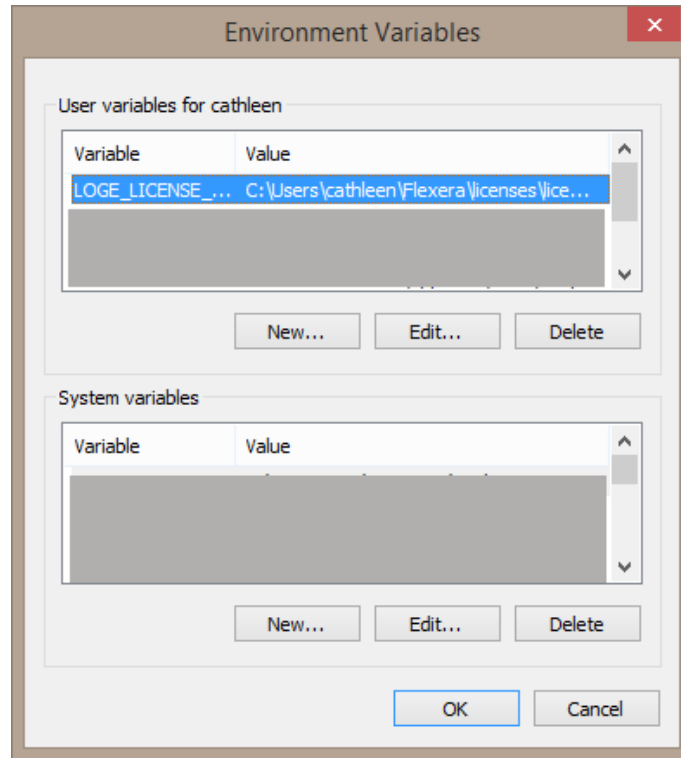
Figure 3.3: Open the *Environment Variables* panel.
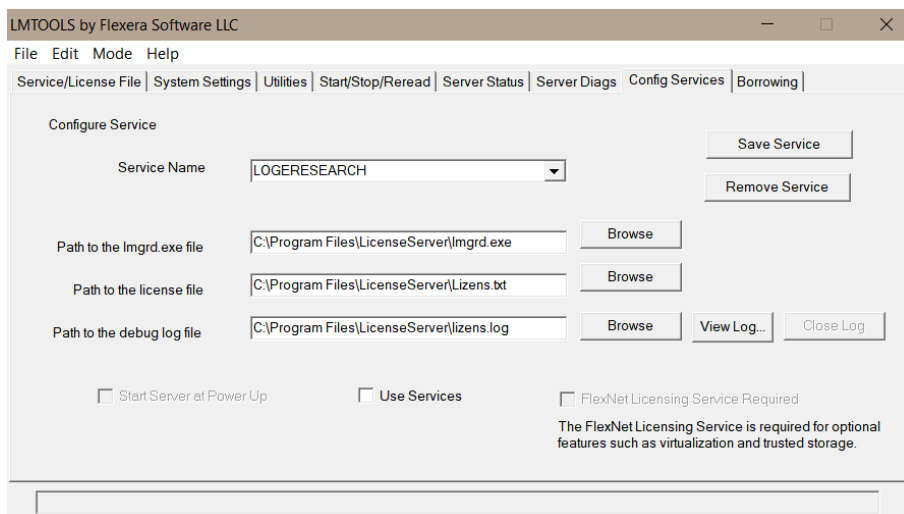
3.3   Start the License Server

If you will be checking out a license from another computer (network/floating license), you may skip this section.

   Go back to the *Start/Stop/Reread* tab of `lmtools.exe` and click the *Start Server* button. LOGE.exe should now show up the list of active processes in the Windows task manager. Note that you may have to log out and log back in to be able to use LOGERESEARCH.

4

TRIAD LICENSE SERVER SETUP

For larger networks with many computers sharing the LOGERESEARCH licenses, triad license servers (redundancy) may be used. If opting for this configuration, three machines simultaneously act as license server. This is beneficial if for some reason, one or two of the dedicated servers is down.

The setup for each of the servers is the same as for a single network server but the license file is slightly modified. Instead of one `SERVER` line there are three, containing the hostname, lmhostid and (optionally) port number for each intended license server. If preferred, the port numbers can be edited.

The environment variables set on the client side, i.e. the computer from which LOGERESEARCH is run, must include all three servers. Instead of setting one port@server value for the LOGE_LICENSE_FILE variable, three values are set, separated by semicolons (Windows) or colons (Linux). Example:

```
LOGE_LICENSE_FILE=2000@serverA:2000@serverB:2000@serverC  (Linux)
LOGE_LICENSE_FILE=2000@serverA;2000@serverB;2000@serverC  (Windows)
```

5   TROUBLESHOOTING

If the license does not get checked out correctly, make sure that `lmgrd` (Linux) or `lmgrd.exe` is running on the license server.

Firewalls on either server or client may interfere with the licensing. Make sure the license manager, `lmgrd`, and the vendor daemon, `LOGE`, are not blocked and that the ports are open for traffic. Since this is done differently for different firewalls, no guidance will be given here.

If you have problems checking out the license from a different computer, consider the following steps to pinpoint the source of the problem:

1. Check that `LOGE_LICENSE_FILE` is specified correctly.

2. Try to ping the licence server.

3. Check that there is no firewall interfering with the inter computer communication.

4. If the license server is serving multiple instances of FlexLM enabled software, one `lmgrd` process can and should serve them all. Make sure that the port number specified on the `SERVER` line is the same in all license files.

5. Make sure that the `LOGE` vendor daemon is not of lower version than the FlexLM version that the LOGERESEARCH executables were compiled against. The version of the vendor daemon can be found by typing

   ```
   LOGE -v (Linux)
   LOGE.exe -v (Windows)
   ```

   in a command line terminal. For information on what version of FlexLM LOGERESEARCH expects, please consult the release notes for the LOGERESEARCH version you are running.

5.1 Windows

5.1.1 Problems with the local License server

It was found that problem may occur on Windows 10, even the procedures described above have been followed correctly. The LMTOOLS program, when I click Start Server, give the following message " VS is starting, please check vendor daemon's status in debug log" but the debug log is empty. Under the server status tab, on clicking perform status inquiry, the following message appears: "Error getting status: invalid license file syntax". The problem is usually solve by having the the executables and license file in a place on the disk which does not require administrator rights (not Program Files). Having all files in the regular user space should be sufficient.

5.1.2 When Using a Floating License on Windows, the License Check is Very Slow

When using a floating license on Windows, the licensing tools may become slow due to the network configuration. This issue was detected in a network with multiple domains and is caused by the hostname lookup in FlexLM.

Solution: Either of the following changes in the Windows network configuration should make the problem go away:

- Disable Netbios (Network connection, select "Internet Protocol (TCP/IP)", then Properties, Advanced; on the WINS tab, select Disable NetBIOS over TCP/IP)

- Specify a default DNS suffix (Network connection, select "Internet Protocol (TCP/IP)", then Properties, Advanced; on the DNS tab add the "DNS suffix for this location", for example "yourcompany.com")

5.1.3 License checkout via VPN does not work

This can be due to long round trip times of the requests. The license checkout defaults to one second. The time out time for the License checkout can be increased by setting the environmental variable:

```
FLEXLM_TIMEOUT = 600000
```

where the timeout is given in microseconds. Step by step increasing of this value can improve the situation.

5.1.4 Flex license finder pops up constantly

Since Windows 8 fast license checkouts over a network can lead to constantly pop ups of the Flex license finder. To reduce this pop up count please use the latest available license setup files on the LOGE website. Additionally the time out time for the License checkout can be increased by setting the environmental variable:

```
FLEXLM_TIMEOUT = 600000
```

where the timeout is given in microseconds. When not given the default is 100000 μs (1 s). Step by step increasing of this value can improve the situation.

5.1.5 User credentials needed to launch processes when trying to run simulations

This means the current user has not entered his Windows credentials for MPI. To solve this problem, open the `Windows command prompt` by pressing `Win+R` and typing `cmd` and then pressing `ENTER`. Now execute the following command in the new window that opens:

`%\PATH\TO\LOGEresearch%\MPI\mpirt\bin\mpiexec.exe -register`

and follow the instructions in the command prompt. Please make sure to replace the installation path with the one where you have installed LOGERESEARCH.

5.1.6 Checking out licenses on a Windows Terminal Server via RDP

When checking out licenses via a remote session on a Windows Terminal Server, uncounted licenses are normally not supported. If this is the case, please let us know so we can add the keyword `TS_OK` for such cases.

5.1.7 Using LMTOOLS with Services

Using the LMTOOLS, some Windows versions do not allow the use of Services for the license server functionality. This will prevent checking out licenses from this machine. To bypass that, the checkbox *Use Services* needs to be disabled (see Figure 5.1). This requires the start of LMTOOLS and the license server after each reboot of the host system.
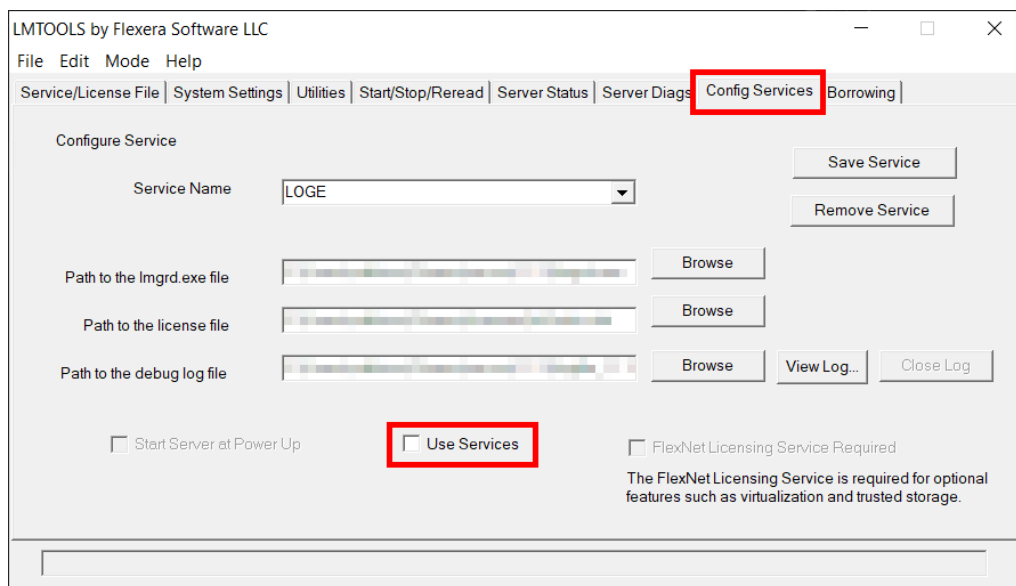

Figure 5.1: Disable the *Use Services* checkbox.

5.2 Linux

5.2.1 When Using a Floating License on Linux, the License Check is Very Slow

If the license checkout is slow, it might help to set the environment variable FNP_IP_ENV:

```
export FNP_IP_ENV=1
```

5.2.2 The License Server Does not Start with Error: No such file or directory

When this error message appears:

```
-bash: ./lmgrd: No such file or directory
```

the reason is that the license server is looking for a specific lsb-library that is missing.
Check if the package lsb is installed and if not, install it. On an Ubuntu system the command would be:

```
isaac@multivac:sudo apt-get install lsb
```

5.2.3 When Starting the License Server a dbus-error Appears

When this error message (or similar) appears:

```
isaac@multivac: arguments to dbus_move_error() were incorrect, assertion "(dest) == NULL ||
                !dbus_error_is_set ((dest))" failed in file dbus-errors.c line 280.
```

the reason is that the license server needs the hal-layer, which is missing.
Check if the package hal is installed and if not, install it. On an Ubuntu system the command would be:

```
isaac@multivac:sudo apt-get install hal
```

If this error still appears, try to run the haldaemon in verbose-mode:

```
isaac@multivac:sudo /usr/sbin/hald --daemon=no --verbose=yes
```

If errors like these

```
** (process:3921): WARNING **: Failed to add monitor on '/etc/hal/fdi/preprobe':
                  No such file or directory
** (process:3921): WARNING **: Failed to add monitor on '/etc/hal/fdi/information':
                  No such file or directory
```

appear, create the missing directories manually. Referring to the example message above, the following needs to be done:

```
isaac@multivac:sudo mkdir /etc/hal/fdi/preprobe
isaac@multivac:sudo mkdir /etc/hal/fdi/information
```

Restart the haldaemon. If there are no problems, the error messages will disappear.

5.2.4 Error Message in License Server Logfile

When this error message appears in the license logfile:

```
(lmgrd) Can't make directory /usr/tmp/.flexlm, errno: 2(No such file or directory)
```

the reason is that the license server tries to write a temporary file to /usr/tmp which does not exist. This can be easily fixed by creating the directory manually or by setting a symbolic link. On an Ubuntu system the command would be:

```
isaac@multivac:ln -s /tmp/ /usr/tmp/
```