

# Server License Activation and Administration Guide

Lavastorm Analytics Engine

## Legal notice

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# Legend

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	Indicates a prerequisite.
	Indicates an unordered list.
	Indicates a procedure with only one step.
1. 2.	Indicates a procedure with multiple steps.
	Indicates the result of a procedure.
	Indicates a note. A note highlights important information.
	Indicates a tip. A tip gives you hints, for example, alternative methods for completing a task.
	Indicates a caution.
<b>Bold text</b>	Indicates user interface text.
<code>Code text</code>	Indicates code or system commands.
<b>Menu &gt; Menu item</b>	Indicates navigation to a menu or sub menu item.
<a href="#">Link</a>	Indicates a cross-reference to a section within the current document, or a link to an external document.
<b>EXAMPLE</b>	Indicates an example.
	Indicates an image caption.

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# 1. Introduction

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This document outlines how to apply a license, administer the license features, and understand licensing on an Lavastorm Analytics Engine (LAE) Enterprise or LAE Workgroup server. For LAE desktop customers, this document is not applicable.

## 1.1 Setup

Prior to activating the license on your LAE server, you should first install the software following the instructions in the installation guide corresponding to the type of server that you are installing.

Before installing, you should also carefully read the LAE Release Notes. If you are upgrading from a previous LAE version, you should pay particular attention to the documentation regarding potential backwards compatibility issues with previous versions. You may need to modify graphs and/or server configuration in order to ensure there are no backwards compatibility issues.

There are two methods for activating and installing the license; via a command line tool, or using BRE from a desktop installation. If you want to do this via the BRE user interface, then you will also first need to install a Lavastorm Desktop instance in order to use the BRE user interface.

## 2. LAE server license activation

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Once your LAE Server has been installed, you need to activate the license for this server. There are two different options for installing the license; via the command line, or through BRE. These options are outlined in the following sections.

### 2.1 License activation via the command line interface

For detailed information about using the `laeConfig` commands please refer to the built in help as follows:

- `laeConfig help license`
- `laeConfig help license activate`
- `laeConfig help license store`

#### Using an activation key to activate and store on a local server

The `laeConfig` utility within `$LAEINSTALL/bin` can be used to activate and store a license against the local server.

##### When to use

You have been provided with a license activation key from Lavastorm Analytics and want to activate and store the license on the local LAE server.

##### Prerequisites

- ✓ The machine on which you are applying the license has internet access such that the activation key can be activated against the licensing web service.
- ✓ The server should not be running. If the server is running at the time of activating and storing the license, the server will need to be restarted in order for these changes to take effect.

## Steps

1. Execute one of the LAE environment resource scripts.
  - i. For posix platforms
    - a. For *sh* or *bash*: source .profile.lavastorm
    - b. For *csh* or *tcsh*: source cshrc.lavastorm
  - ii. For windows platforms, run laeEnv.bat – also located in *\$LAEINSTALL/bin*.
2. Run the *laeConfig* tool using the command:

```
laeConfig --targetUser <user> --targetPassword <password> license  
activate  
  
[-t <licenseType>] <activationKey>
```

If the *-t* option is not provided, this will apply a server license.

Otherwise, the *-t* option can be specified to "server" for a server license, or "node" for a Node Pack license.

### EXAMPLE:

```
laeConfig --targetUser admin -targetPassword welcome license activate  
ABCDE-FGHIJ-KLMNO-1234
```

## Storing an already activated license on a local server

The *laeConfig* utility within *\$LAEINSTALL/bin* can be used to store an already activated license on the local server.

### When to use

You have been provided with a license file or have already activated a license to retrieve a license file and want to store this on your local LAE server.

### Prerequisites

- ✓ The server should not be running. If the server is running at the time of activating and storing the license, the server will need to be restarted in order for these changes to take effect.

### Steps

1. Execute one of the LAE environment resource scripts.
  - i. For posix platforms
    - a. For *sh* or *bash*: `source .profile.lavastorm`
    - b. For *csh* or *tcsh*: `source cshrc.lavastorm`
  - ii. For windows platforms, run `laeEnv.bat` – also located in *\$LAEINSTALL/bin*.
2. Run the *laeConfig* tool using the command:

```
laeConfig --targetUser <user> --targetPassword <password> license store  
[-t <licenseType>] <licenseLocation>
```

If the `-t` option is not provided, this will apply a server license.

Otherwise, the `-t` option can be specified to "server" for a server license, or "node" for a Node Pack license.

### EXAMPLE:

```
laeConfig --targetUser admin --targetPassword welcome license store  
/home/my/license/MyLicenseFile.lic
```

## Using an activation key to activate and store on a remote server

The *laeConfig* utility within *\$LAEINSTALL/bin* can be used to activate and store a license against a running remote server. This can be done from any other machine with the LAE Desktop or server installed.

### When to use

You have been provided with a license activation key from Lavastorm Analytics and want to activate and store the license on your LAE server (*target server*). Your LAE server does not have access to the internet to be able to activate the license. However, another machine with either the LAE desktop or server installed (*source LAE instance*) does have such access.

### Prerequisites

- ✓ The *target server* on which you want to store the license is running.
- ✓ The machine on which the *source LAE instance* resides has internet access such that the activation key can be activated against the licensing web service.

### Steps

1. Execute one of the LAE environment resource scripts on the *source LAE instance*.
  - i. For posix platforms
    - a. For *sh* or *bash*: `source .profile.lavastorm`
    - b. For *csh* or *tcsh*: `source cshrc.lavastorm`
  - ii. For windows platforms, run `laeEnv.bat` – also located in *\$LAEINSTALL/bin*.
2. Run the *laeConfig* tool using the command:

```
laeConfig -t laeserver://<host>:<port> license activate [-t
<licenseType>]
    <activationKey>
```

If the second `-t` option is not provided, this will apply a server license.

Otherwise, the second `-t` option can be specified to "server" for a server license, or "node" for a Node Pack license.

### EXAMPLE:

```
laeConfig --targetUser admin --targetPassword welcome -t
laeserver://myserver.lavastorm.com:7721 license activate ABCDE-FGHIJ-
KLMNO-1234
```

## 2.2 License activation through the BRE user interface

Rather than activating the license via the command line, it is also possible to install this on the LAE server via the BRE user interface.

### Prerequisites

- ✓ The LAE server on which you want to apply the license has already been installed and is running.
- ✓ The LAE Desktop instance from which you want to apply the license on the server has already been installed. (Follow the steps outlined in the LAE Windows Desktop Installation Guide to install the LAE on a windows machine that has access to your LAE server.)

### Server farm configuration

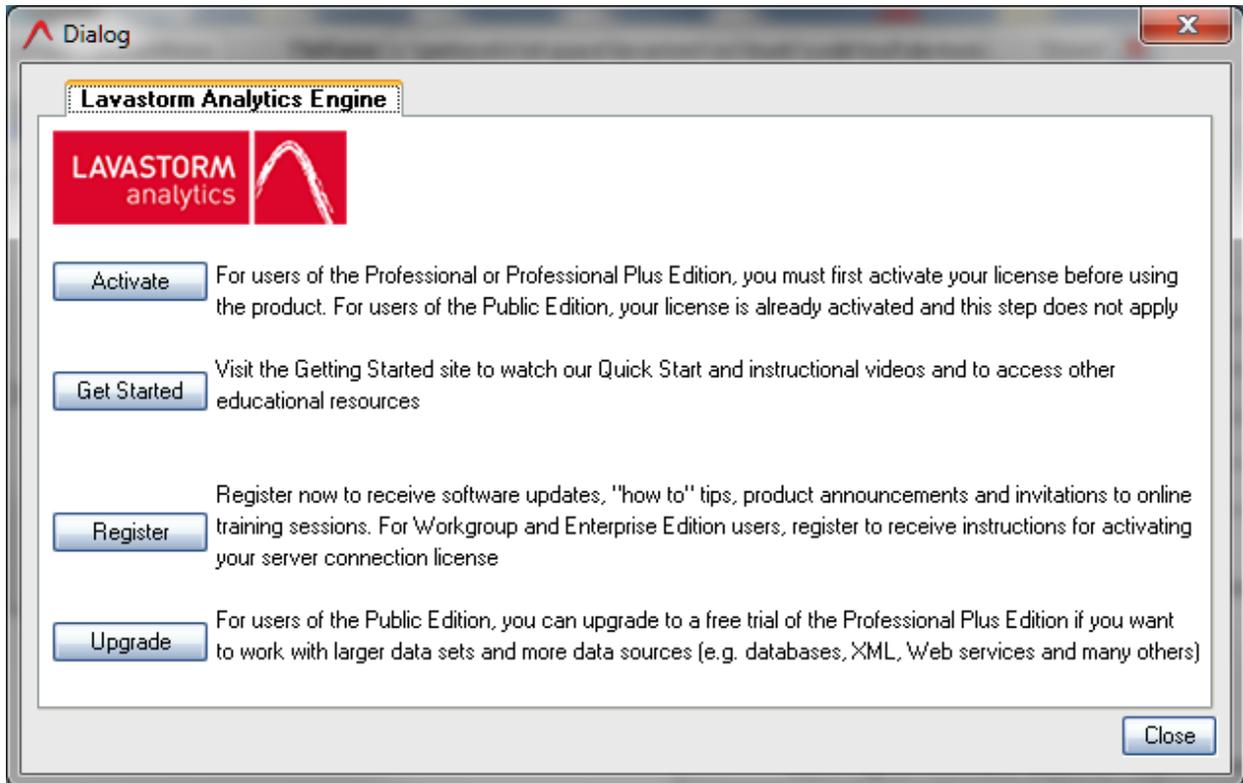


**Note:** If you have installed the Lavastorm Desktop using a "Farm Configuration File" as described in the Windows Desktop Installation Guide, then you can skip this section.

#### 1. Start BRE.

Assuming you did not change any of the start menu options, you can start BRE via clicking on the "Business Rules Editor" link in the Lavastorm\LAE <Version>\ folder in the start menu.

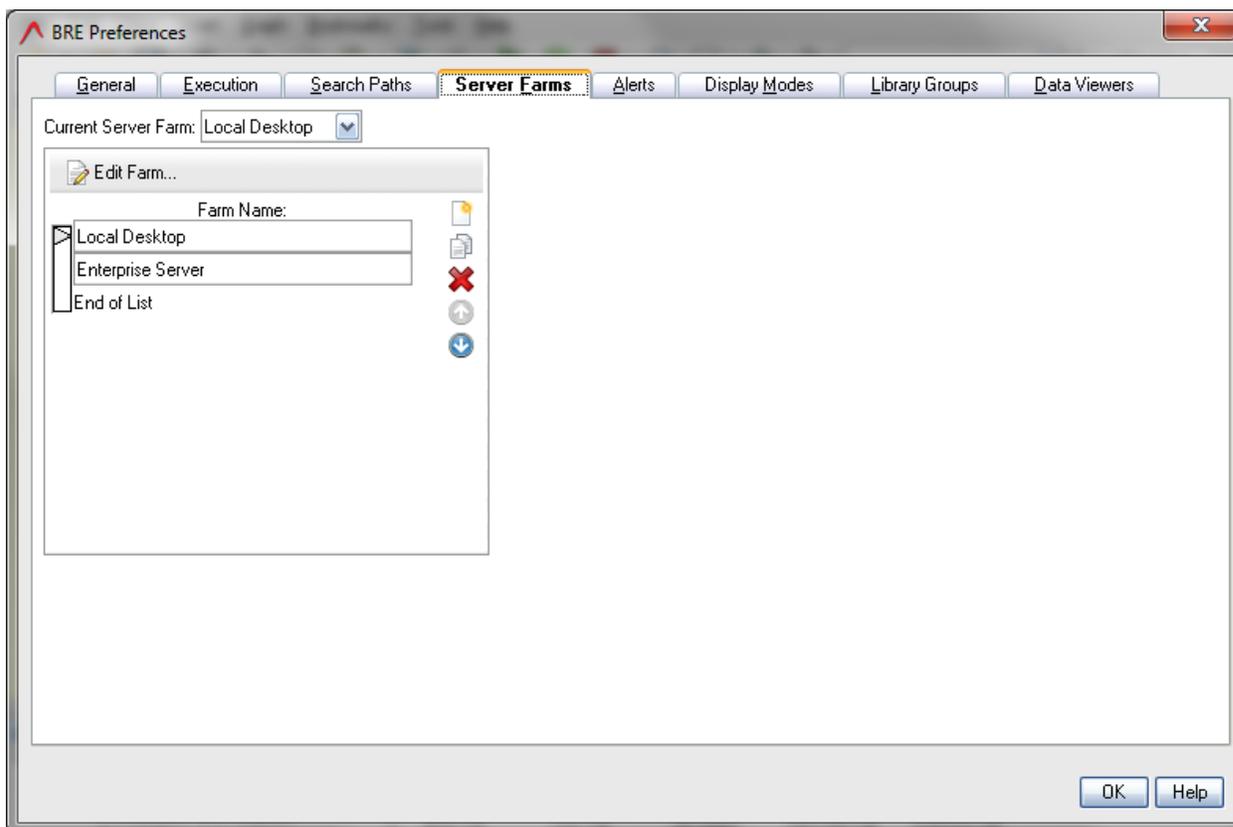
» Upon starting BRE, you will be presented with a dialog box informing that you are using the public version of the software:



**Note:** By default, BRE is configured to first connect to the local server, therefore this dialog is informing you that you only have a public license on the local server of the desktop install.

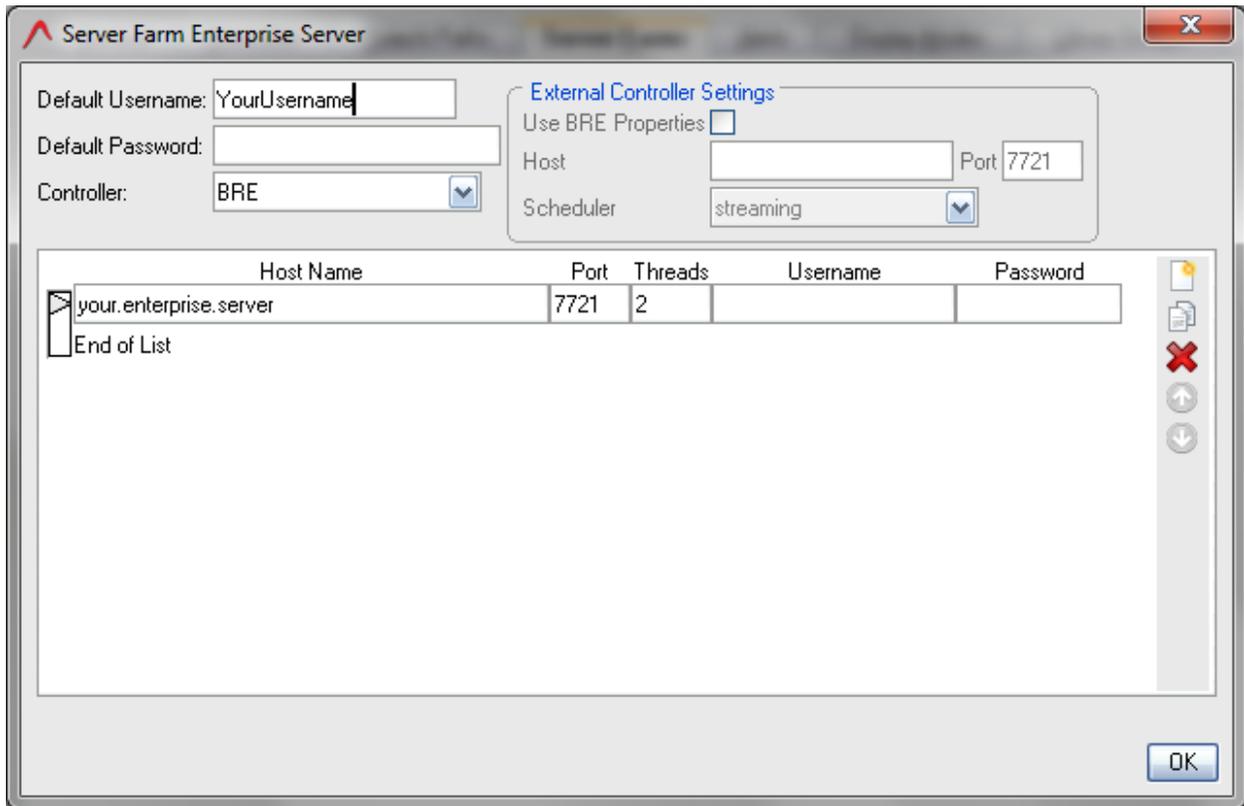
2. Click **Close** to dismiss this dialog.
3. Click **Tools->Preferences->Server Farms**.

» The following dialog box is displayed:



4. Select the item **Enterprise Server** and click **Edit Farm**.

» The following dialog box is displayed:



5. Replace “YourUsername” in the **Default Username** field with **admin**.
6. Type **welcome** in the **Default Password** field.
7. Replace “your.enterprise.server” with the hostname of your LAE server.
8. If you modified the port during installation of the LAE sever, replace the “Port” entry “7721” with the port in which your server is running.
9. Click **OK** to accept changes and exit the server farm configuration window.
10. Click **OK** to accept changes on the BRE Preferences window.

» You will receive a notification that your BRE server farm has changed:



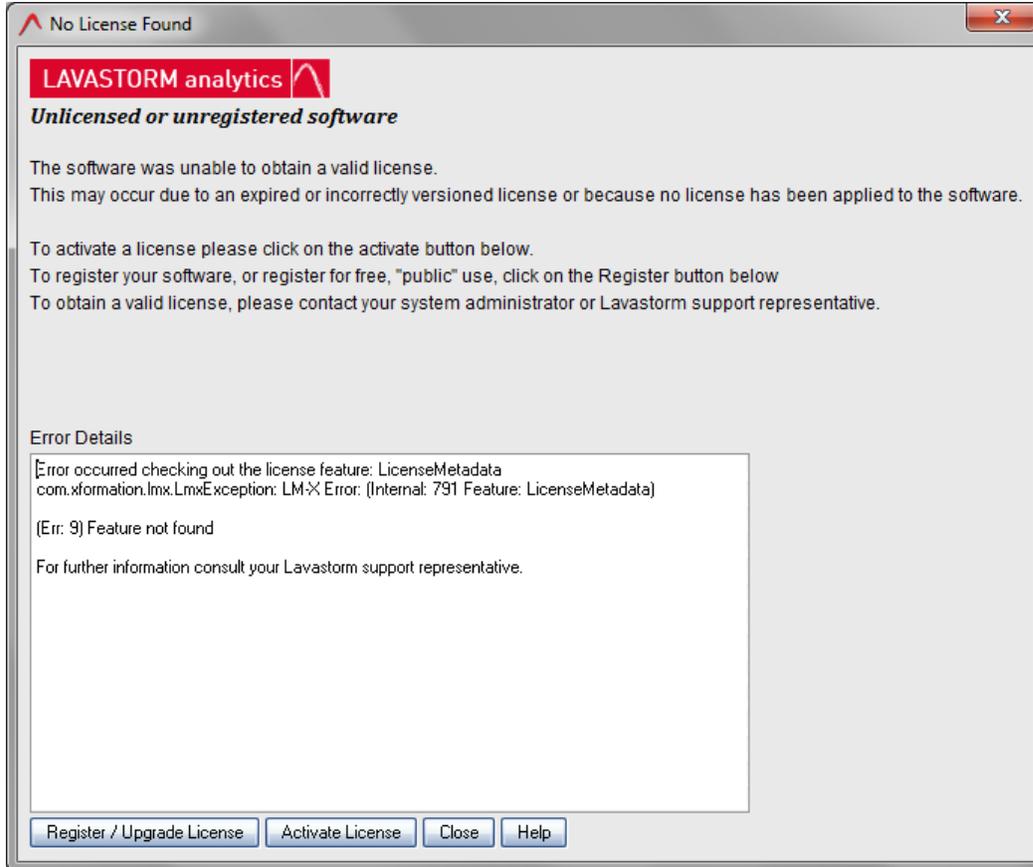
11. Click **No**.

12. In the BRE toolbar, select the server farm dropdown (this will have **Local Desktop** selected) and select the **Enterprise Server** item.

» You will again be presented with the **BRE Farm Changed** window shown in step 12.

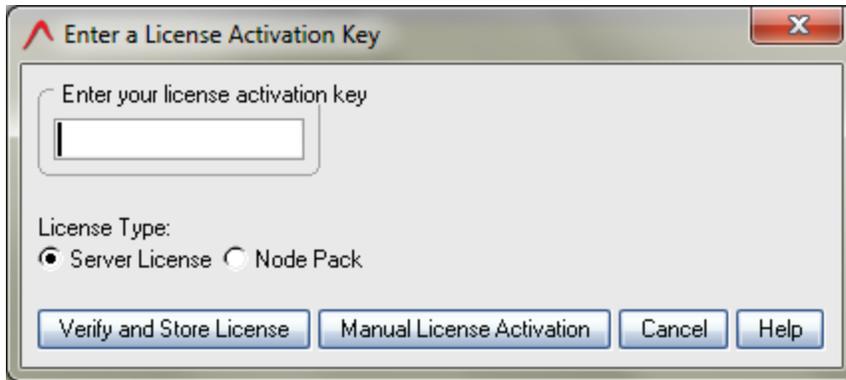
13. Click **Yes**.

» You will now be connected to your enterprise server and will again see the **Unlicensed or unregistered software** dialog box:

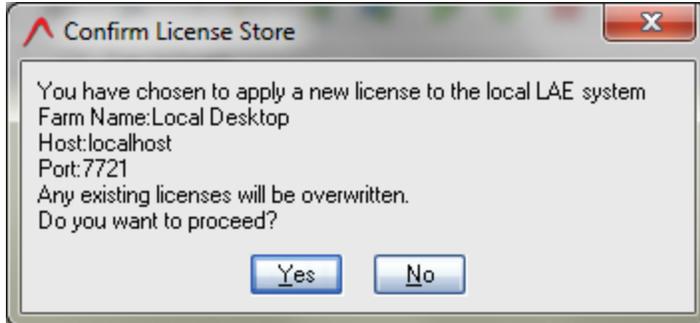


## Activation using a license activation key

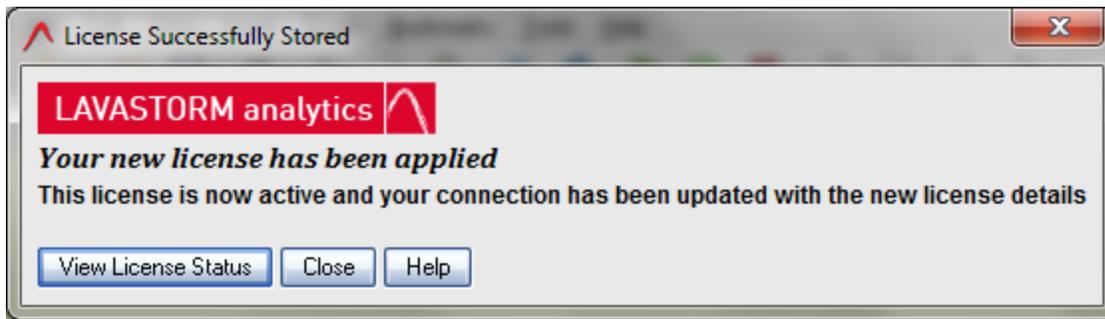
- ✓ You have an activation key provided by Lavastorm Analytics.
- 1. After following the steps in the server farm configuration section (see [Server farm configuration](#)), in the **Unlicensed or unregistered software** window, click **Activate License**.
  - » The following dialog box is displayed:



- 2. In the **Enter your license activation key** box, type your activation key and click **Verify and Store License**.
  - » A dialog box, similar to the following, is displayed:



- 3. Verify that the **Farm Name** is **Enterprise Server**, and that the **Host** and **Port** correspond to your LAE Server installation, then click **Yes**.
  - » BRE will connect to the license activation center, obtain the license using your activation key and activate this on the LAE Server. If this is successful, you will see the following dialog box informing you that you have successfully applied the license on the server:



4. Assuming that you see the **License Successfully Stored** dialog box, restart the server to ensure that there is no edit session locked to the machine from which you were licensing the server. See [Concurrent edit sessions](#).

If you do not see the **License Successfully Stored** dialog box and you receive an error message, this may indicate that BRE is unable to connect to the license activation center. If this is the case, verify your network settings and try to activate the license again. If this still does not work, you will need to follow the steps outlined in the [Manual license activation](#) section.

## Manual license activation

If you are unable to automatically apply the license to the license server using a license activation key, you will need to follow the manual steps to apply the license.

1. To manually apply the license, when you receive the error stating that BRE is unable to automatically activate the license, click **Help** and follow the steps outlined in the "Manual License Activation" section of the help.



**Note:** Once you have the license file, if you choose you can also now install this via the command line utility as discussed in the section on [Storing an already activated license on a local server](#)

2. Once you have successfully applied the license, restart the server to ensure that there is no edit session locked to the machine from which you were licensing the server. See [Concurrent edit sessions](#).

## 3. LAE server license administration

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The LAE licensing options govern the way multiple users interact with the server. This controls both how many users can concurrently connect to an enterprise server, and which users are allowed to connect. It also controls how many graphs are allowed to concurrently execute (either through BRE or via the command line running a BRX, or using the Logistics Manger as an LXA).

For an LAE Enterprise customer, there is no restriction on the number of concurrent graphs that can be executed, so discussions about “Concurrent Execution Sessions” can be ignored. However, for an LAE Workgroup customer, the number of execution sessions is limited, therefore this section needs to be taken into account.

### 3.1 Concurrent edit sessions

In order for BRE to perform most standard editing operations, an “edit session” is required. When BRE connects to the server, it first checks if the server is licensed. If the server is licensed, it will make a request to the server for the use of an edit session. If it receives permission to use an edit session, then it can proceed as normal. If not, then there are some severe restrictions in place preventing the user from performing a number of actions.

If BRE is not connected to a server, then it will not have an edit session. Whether or not the server grants BRE the use of an edit session depends on the following:

- Whether or not the server is licensed.
- The number and type of edit sessions specified on the license.
- Whether or not there are available edit sessions that the server can grant. See [Edit session locking](#)
- Which group(s) the LAE user is in, via LAE user administration.

### Restrictions without an edit session

Without an edit session, the user can view a graph in BRE and navigate around the graph. They can also view node logs, and node input and output data. However, they cannot edit, execute or save the graph.

## Edit session locking

The server will generally have a fixed number of edit sessions to allocate. However, a given BRE user can open multiple BRE instances and will only use one of these edit sessions provided that they connect to the LAE server using the same username across all instances, and provided that all of these BRE instances are on the same machine.

Therefore, the edit session limitation is controlling how many concurrent BRE users are connected to the server; it does not affect how many open BRE instances a user can have.

## Edit session pools

Each server has the potential to grant the use of an edit session from two different edit session pools. Depending on the license, there will be edit sessions available in one, none, or both of these pools. One of the pools contains duration-host-locked edit sessions. The other pool will contain floating edit sessions. The number of edit sessions available in each pool (ranging from 0 to unlimited) depends on your license.

### Floating edit sessions

Floating edit sessions are the more flexible of the two different types of edit sessions. If your license specifies that you have  $x$  floating edit sessions, this means that you can have any number of LAE users who can connect to the LAE server, however, only  $x$  of these users will be able to concurrently connect to the server and obtain an edit session.

Therefore, once a user closes all of their BRE instances, or disconnects from the server, they are no longer using this edit session and it is possible for any other BRE instance to obtain the edit session. If your license specifies that you have floating edit sessions, you can control which user is able to obtain a floating edit session via the server's user administration. See [Concurrent edit sessions](#).

### Duration-host-locked edit sessions

Duration-host-locked edit sessions allow for a fixed set of users to connect to the LAE server. When a user connects to the server, they obtain an edit session from the server. However, unlike the floating edit session scenario, this edit session is then locked to that user and machine. If the user disconnects from the server, or if the user closes all of their open BRE instances, the edit session on the server is still locked to their LAE username and machine, meaning that other users cannot subsequently connect to the server and obtain this edit session.

The edit session is locked to the user and machine for a fixed amount of time specified on the license (typically 3 days). Once an edit session has been locked to a particular LAE user and machine, it remains locked to that machine until the fixed amount of time specified on your license elapses without that user reconnecting, or until the server is restarted.

Therefore, if your license specifies a number of floating edit sessions, this governs the number of concurrently connected users, where there may be any number of users who periodically use the server. On the other hand, if your license allows only duration-host-locked edit sessions this really controls the total number of users who are able to use the server; it does not matter whether they use the system concurrently or not.

A license can contain a mixture of duration-host-locked sessions and floating sessions, in which case the server's user administration can be used to determine which users have access to which edit session pools, as described in [Configuring edit session user groups](#).

## 3.2 Configuring edit session user groups

By default, all LAE users have access to the host-duration-locked and floating edit session pools which are available on your license. If you do not wish to modify this behavior, then you do not need to perform any modifications to the LAE edit session user groups. However, you can configure user groups such that certain users are only allowed to take from the pool of host-duration-locked licenses, floating licenses, or are never allowed to receive an edit session (read only).

The three edit session user groups are as follows:

- **fixed** - If a user is in the “fixed” group, then they can obtain edit sessions from either the floating, or host-duration-locked edit session pools, if they are available on your license.
- **floating** - If a user is in the “floating” group, and not in the “fixed” group, then they can only retrieve edit sessions from the floating edit session pool if this is available on your license. They are restricted from obtaining an edit session from the host-duration-locked pool.
- **readOnly** - If a user is in the “readOnly” group, and not in the “fixed” or “floating” groups, then they will never be granted an edit session. They will be able to connect to the server, and view logs and node input and output data, however they will not be able to save, edit or execute graphs.



**Tip:** Users can be part of multiple groups.

The creation and maintenance of user groups is managed by users with the role of administrator through the LAE Directory user interface, see [Managing LAE Web Application groups](#).

**EXAMPLE:** Consider the case of an LAE Enterprise Server, where there are:

- 10 users who need to use the LAE server.
- 2 of these users (Mary and John) need to connect to the LAE server every day and be able to edit and execute graphs, regardless of what the other users are doing.
- 5 of these users occasionally need to execute or modify graphs. You have determined that generally less than 3 of these users would be doing this at the same time.
- 3 of these users never need to develop or execute graphs. However, they will need to view the results of graphs that have been run, and investigate the outputs.

Users	Needs to Edit/Execute Graphs?	Needs to <i>always</i> be able to use LAE server?
Mary and John	Yes	Yes
Bill, Fred, Joanne, Chris, Deb	Yes	No
Barry, Anna and Mark	No	No

1. In such a situation, you could request a license with 2 host-duration-locked licenses and 3 floating licenses.
2. You would then create the following edit session groups and add the following users to these groups in the LAE Web Application user interface (see [Managing LAE Web Application groups](#)):

Group name	Users
<b>fixed</b>	Mary and John. These users will always be able to connect to the server to edit and execute graphs.
<b>floating</b>	Bill, Fred, Joanne, Chris and Deb. These users, who occasionally use the system will be able to connect and take a floating edit session, however, only three of them will be able to connect at any given time.
<b>readOnly</b>	Barry, Anna and Mark. These users will never use an edit session when they connect to the server.

### 3.3 Restricting access to Logistics Manager or the LAE Directory/Lavastorm Explorer

By default, all LAE users have access to all parts of the LAE system. If you do not wish to restrict user access to certain parts of the system, you do not need to make any modifications to the default settings. However, you can choose to configure user groups to control access to Logistics Manager and/or Lavastorm Explorer and the LAE Directory.

The two user access groups are as follows:

- **logmanFixed** - This group controls access to Logistics Manager.
- **viewerFixed** - This group controls user access to the LAE Directory and Lavastorm Explorer.

 **Tip:** Users can be part of multiple groups.

The creation and maintenance of user groups is managed by users with the role of administrator through the LAE Directory user interface, see [Managing LAE Web Application groups](#).

**EXAMPLE:** You may want all users to access the LAE Directory and Lavastorm Explorer, but you may only want one user to be able to access Logistics Manager.

 In the LAE Directory user interface, add "user 1" to the "logmanFixed" group.

Group name	Users
<b>logmanFixed</b>	User 1. Access to the Logistics Manager has been restricted to only this user.
<b>viewerFixed</b>	All users. Access to the LAE Directory and Lavastorm Explorer has not been restricted.

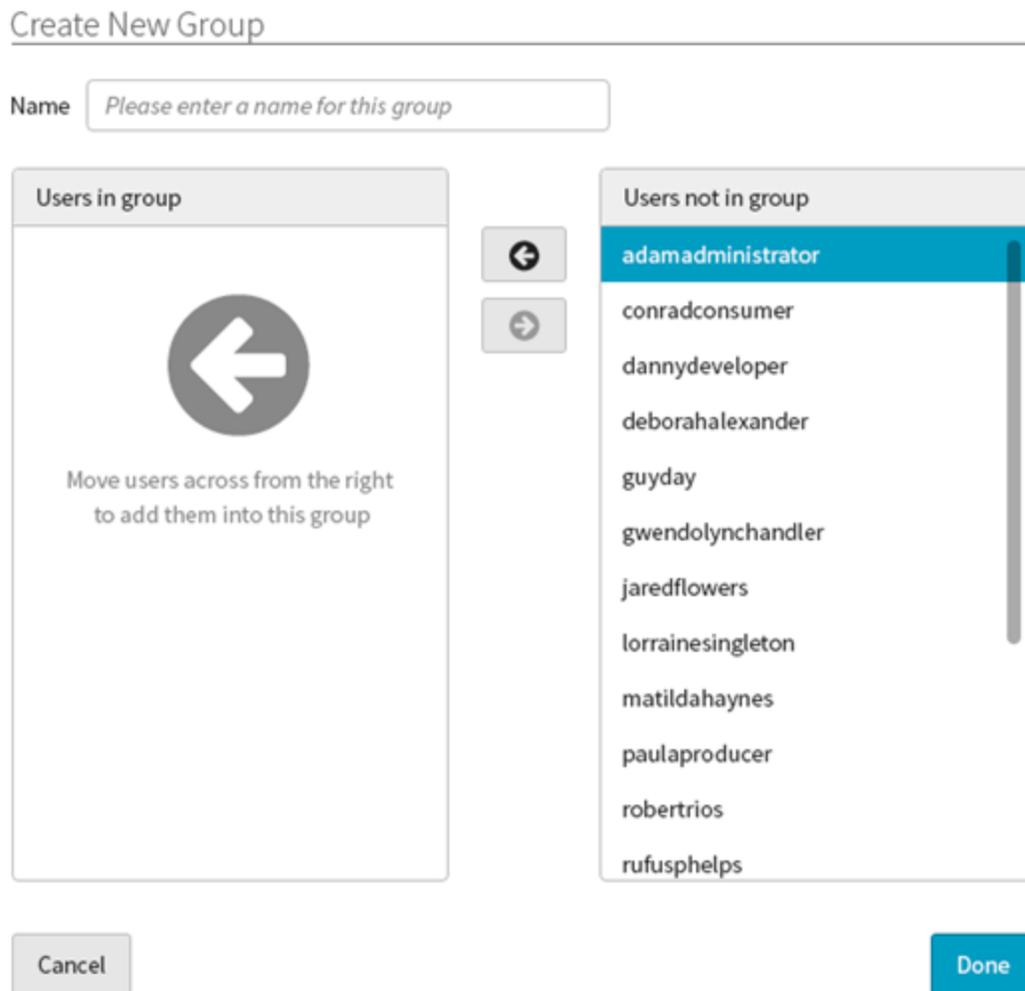
### 3.4 Managing LAE Web Application groups

1. Click the **Create** button.



2. Select **Group**.

» The **Create New Group** dialog box opens.



3. Enter a **Name** for the group.

**EXAMPLE:** To create an edit session user group, type one of the three edit session user group names; **fixed**, **floating** or **readOnly**.

- Or -

**EXAMPLE:** To create a user group to restrict system access, type one of the two user access group names; **viewerFixed** or **logmanFixed**.



**Note:** User group names are case sensitive.

4. Select a user and click the left arrow button to add them to the group. Use the right arrow button to move users out of the group.
5. Click **Done**.

» The new group is created.



**Tip:** Only users with the role of administrator can add or edit groups in the LAE Web Application.



**Caution:** Whilst LAE allows you to create two groups with the same name, you should avoid doing this for the following groups: **fixed**, **floating**, **readOnly**, **viewerFixed** and **logmanFixed**.

For more information on managing user groups, see the LAE Administration Guide.

## 3.5 Concurrent execution session limiting



**Note:** For LAE Enterprise customers, the number of execution sessions is not limited, therefore this section can be ignored. This only applies to LAE Workgroup customers.

Similar to the concept of edit sessions is the concept of execution sessions. Whereas edit sessions control the number of users that can connect to the server and edit graphs, execution sessions limit the number of concurrently executing graphs, whether these graphs are being executed via BRE or from the command line using a BRX.

While a single user working on a single machine will only ever use one edit session at a given time, the operation is different when it comes to execution sessions:

- If a user attempts to execute multiple graphs in different BRE instances, they will use multiple execution sessions.
- An execution session is only held for the duration of the execution of a graph, (or set of nodes if the user is executing individual nodes).
- If a user connects to a server and execute some nodes, as soon as the nodes have finished executing, the edit session is no longer held by the user, and the execution session is available on the server for another user to utilize.
- If there are no execution sessions available when a user attempts to execute a set of nodes or a graph through BRE, then no nodes will execute and an error message will be displayed.

This means that if there are BRE users who are currently executing graphs when a BRX is attempted to be run from the command line, there may not be an execution session available for the BRX to be able to execute. In order to prevent this from causing failures of scheduled/automated jobs, the following occurs:

- When attempting to run a BRX from the command line, the controller will first attempt to retrieve an execution session.
- If an execution session is available, the BRX will run normally.
- If no execution session can be retrieved, then the controller will wait until a session becomes available.
- The length of time that the controller waits, and the amount of time it waits between successive attempts to retrieve an execution session are governed by the parameters (both in seconds):
  - *ls.brain.controller.executionSessionTimeout* (default -1, meaning that this will never timeout)
  - *ls.brain.controller.executionSessionRetryInterval* (default 5 seconds)

Therefore, by default, if no execution session is available when a BRX is run from the command line, it will wait until an execution session becomes available, checking the server every 5 seconds. If the property *ls.brain.controller.executionSessionTimeout* was set to 300 (5 x 60), this would mean that the BRX job would try every 5 seconds to obtain an execution session from the server, but give up after 5 minutes and the job would fail.

These settings can be configured in the servers property files, as discussed in the section [Licensing related server configuration](#).

### 3.6 Licensing related server configuration

A number of new properties and preferences have been introduced to enable the server licensing features outlined in this document. These are detailed in the table below.

Property Name	Location	Default	Description
ls.brain.server.licensePath	SetBrainEnv.bat on windows, .profile.lavastorm, .cshrc.lavastorm on unix	Default set per install, depending on windows/unix installation. On unix, this defaults to <installDir>/conf/brain/license/. On windows, the location is the same as per in 4.5.x releases, in <UserAppDataDir>/Roaming/Lavastorm	Specifies the path where the license is to be stored and retrieved.
ls.brain.server.license.expiryWarningDays	conf/brain/ls_brain.prop	7	Specifies the number of days prior to license expiry that a warning dialog box should be displayed, saying that the license will expire soon
ls.brain.server.license.licenseActivityLog	conf/brain/ls_brain.prop	None	If set, specifies where the license activity log is to be written. See <a href="#">License activity log</a> .
ls.brain.controller.licenseHost	conf/brain/ls_brain.prop	localhost	When running a BRX via the external controller, specifies the hostname of the licensed server to use.
ls.brain.controller.licensePort	conf/brain/ls_brain.prop	ls.brain.server.port	When running a BRX via the external controller, specifies the port of the licensed server to use. By default uses the installed server's port.

Property Name	Location	Default	Description
ls.brain.controller.executionSessionTimeout	conf/brain/ls_brain.prop	-1 (default set in code – not in conf file)	Specifies the amount of time to wait (in seconds) while trying to get an execution session when running a BRX through the external controller. -1 implies keep waiting until an execution session is free.
ls.brain.controller.executionSessionRetryInterval	conf/brain/ls_brain.prop	5 (default set in code – not in conf file)	Specifies the amount of time (in seconds) to wait between successive attempts to retrieve an execution session when running a BRX through the external controller.

## 4. User setup: Connecting to the LAE server

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- ✓ You have installed the server. See the LAE Windows Server Installation Guide.
- ✓ You have activated the server's license. See [LAE server license activation](#)
- ✓ You have set up the required LAE users and user groups. See [Configuring edit session user groups](#)

You are ready to configure the LAE clients to connect to the server.

You will need to provide the users with the following information:

- Server hostname
- Server port (default 7721)
- Their username
- Their password

On each of the machines where a user is to connect to the LAE server, the user will need to:

- Obtain the LAE Windows desktop installation.
- Install the software, following the steps outlined in the Windows Desktop Installation Guide.
- If no farm configuration file is specified during the install:
  - Once the software is installed, they will receive the dialog box informing them that they are using the public version of the software.
  - They should click **Register** to register their LAE client installation.
- Otherwise, they should click **Help> Application License**, then click **Register/Upgrade License**.
- They will then receive an email detailing the steps to configure their LAE client, which involves setting up their server farm to point to the LAE server.

## 5. Troubleshooting and monitoring

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You can monitor or view the status of the server license usage in three ways. Each of these three mechanisms can be used for different purposes and will be used dependent on the level of monitoring or troubleshooting that is needed:

- The BRE Application License dialog box provides a view of the current server license status, from the point of view of the BRE user connecting to the server.
- When activity logging is switched on, the license activity log will log each time a license feature or session is requested, and each time a license feature or session is returned. This will log the information about the user/host that is performing the request, and also log information about the state of the license usage when the request is made. This is primarily aimed for debugging purposes, or for system administrators who may want to keep a log of all of this activity.
- The license status dump allows an authorized LAE user to run a request via the command line to dump the current state of the server with regards to licensure to a BRD file. This is used to determine the current activity on the server, without worrying about each individual request for checking in or checking out a feature.

### 5.1 BRE Application License dialog

Within BRE, the status of the license can be viewed using **Help->Application License** after connecting to a server. The first tab, **Licensed Features**, on the **Application License** dialog box displays the licensed features that BRE has received from the server, including:

- The host and port of the server that the user is connected to.
- The name of the licensed product.
- The description of the product.
- The expiry date of the license.
- Whether the license is a paid version, or the Lavastorm Desktop Public license.
- Whether or not the user has obtained an edit session (shows as whether or not Graph Editing is enabled).
- Whether or not library creation is allowed.
- Whether or not library sharing is allowed.
- The row count limit.

If additional node pack licenses are present on the server, then the 2<sup>nd</sup> and 3<sup>rd</sup> tabs (**Node Execution Licenses** and **Node Source Licenses**) display the source and execution rights provided by these licenses, including their expiry date, and the nodes that they license. If there are no additional node packs, then these tabs appear, but are disabled.

The fourth tab (**Current Server License Status**) then displays the license status on the server.



**Note:** This is different than the first tab, in that the fourth tab displays what is present on the server, while the first tab displays the licenses that BRE has received from the server. For instance, it could display that “Graph Editing” is disabled on the first tab, since BRE was unable to retrieve an edit session. However, the server may have graph editing licensed, but all sessions may be checked out.

The **Current Server License Status** tab displays:

- Whether or not the server has a valid license.
- The version that the server is licensed for.
- The expiry date of the license.
- The number of host-locked edit sessions (total and currently in use).
- The number of floating edit sessions (total and currently in use).
- The number of execution sessions (total and currently in use).
- The number of edit session *instances* being used by this host (only 1 edit *session* will actually be used).
- The number of execution sessions being used by this host.

## 5.2 License activity log

If you wish to log all of the information about which users are attempting to checkout or checkin license features and want to know when requests are denied due to licensing reasons, then the license activity log can be used. The license activity log is disabled by default but can be enabled by setting the server property *ls.brain.server.license.licenseActivityLog* to the name of the file where the license activity log is to be produced. The activity log writes records in the BRD format.

If the log exists at the specified location, then the server will append to that log.

Whenever a user attempts to checkout/checkin a license feature, the information about the user requesting the checkout/checkin will be written to the log (hostIds), along with the result of the request (success or failure), and the state of the license feature after checkout/checkin (number of sessions remaining and so on).

Since the license activity log generates entries for each request, it can grow rapidly, so is primarily suited for debugging/testing purposes, otherwise you will need to ensure that this file is cleaned up regularly (which can only be done while the server is not running) to prevent excessive disk usage.

## 5.3 License state dump

When the server is running, it is possible to get a dump of the current license state of the server. The license state dump can be obtained by running the provided `dumpLicenseState` command line utility, from within the LAE installation directory using the following arguments:

```
bin/dumpLicenseState [-u username] [-p password] [-file outputFile]
```

If any of the optional arguments are not provided, then you will be prompted to enter these.

This will write the following information (in BRD format) about the features listed below.

Feature	Expiry	Licensed Version	License Details <sup>1</sup>	State	Errors	Timestamp
License Metadata	Expiry date of license, NULL if feature not present on license	Version of feature licensed, NULL if feature not present on license	Product name, Product description (as found in license)	NULL	Any errors encountered in LM-X when verifying the feature on the license (such as license expired, incorrect version, feature not present, and so on)	Time when information was “dumped”
Edit Session	See above	See above	Number of floating and host locked sessions on license	Total number of checked out (active) floating and host-locked licenses, and the details of the users who have checked these out.	See above	See above
Library Creation	See above	See above	LICENSED or UNLICENSED	NULL	See above	See above
Library	See above	See above	LICENSED or	NULL	See above	See above

<sup>1</sup>Will be output as “UNLICENSED” if the license for the feature is not present.

Feature	Expiry	Licensed Version	License Details <sup>1</sup>	State	Errors	Timestamp
Sharing			UNLICENSED			
CPU	See above (same as License Metadata)	See above (same as License Metadata)	Number of physical cores that the server is licensed for	NULL	See above	See above
Execution Session	See above	See above	Number of execution sessions the server is licensed for	Total number of checked out execution sessions and the users who have checked these out	See above	See above
Node Execution <sup>2</sup>	See above	See above	Name of the node pack, and a list of all nodes that are licensed in this node pack	NULL	See above	See above
Node Source <sup>2</sup>	See above	See above	Name of the node pack, and a list of all nodes that are licensed in this node pack	NULL	See above	See above

<sup>1</sup>Will be output as “UNLICENSED” if the license for the feature is not present.

<sup>2</sup>There may be multiple Node Execution or Node Source rows present, if there are extra node licenses in the nodePacks directory. Each node pack license will have its own rows in the status dump file

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