



# jBASE Licensing

## Configuration on jBASE 4.1

## Contents

Documentation Conventions .....	1
<b>PREFACE .....</b>	<b>3</b>
JLICENSE SERVER .....	4
JLICENSE CLIENT .....	4
JSLIM SERVER .....	4
<b>ADMINISTRATION.....</b>	<b>5</b>
INSTALLING SERVERS AS SERVICES (JBASE 4.1.5 / WINDOWS ONLY) .....	5
Installing jLicenseServer .....	5
Installing jSlimServer .....	5
Removing jLicenseServer .....	5
Removing jSlimServer .....	5
STARTING THE SERVERS .....	6
Starting jLicenseServer (Windows) .....	6
Starting jLicenseServer (Unix / Linux) .....	6
Starting jSlimServer (Windows) .....	7
Starting jLicenseServer (Unix / Linux) .....	7
STOPPING THE SERVERS .....	7
Stopping jLicenseServer (Windows).....	7
Stopping jLicenseServer (Unix / Linux) .....	7
LICENSE SERVER CONSOLE .....	7
Start the console (Windows) .....	7
Start the console (Unix / Linux) .....	7
STARTING THE CLIENT .....	8
Start the client (Windows).....	8
Start the console (Unix / Linux) .....	8
<b>CONFIGURATION .....</b>	<b>10</b>
LICENSE SERVER CONFIGURATION .....	10
JSLIM SERVER CONFIGURATION .....	11
JLICENSE CONSOLE CONFIGURATION .....	11
ENVIRONMENT VARIABLES .....	12
JBASE_SVR_SESSION .....	12
STAND IN PROCESSING .....	13
Operation .....	13
Notification.....	14
LOGGING AND DIAGNOSTICS .....	15
jLicServer .....	15
jSlimServer .....	16

## Documentation Conventions

This manual uses the following conventions:

Convention	Usage
<b>BOLD</b>	In syntax, bold indicates commands, function names, and options. In text, bold indicates keys to press, function names, menu selections, and MS-DOS commands.
UPPERCASE	In syntax, uppercase indicates JBASE commands, keywords, and options; BASIC statements and functions; and SQL statements and keywords. In text, uppercase also indicates JBASE identifiers such as filenames, account names, schema names, and Windows NT filenames and pathnames.
UPPERCASE <i>Italic</i>	In syntax, italic indicates information that you supply. In text, italic also indicates UNIX commands and options, filenames, and pathnames.
Courier	Courier indicates examples of source code and system output.
Courier Bold	<b>Courier Bold</b> In examples, courier bold indicates characters that the user types or keys (for example, <Return>).
[]	Brackets enclose optional items. Do not type the brackets unless indicated.
{ }	Braces enclose nonoptional items from which you must select at least one. Do not type the braces.
ItemA   .itemB	A vertical bar separating items indicates that you can choose only one item. Do not type the vertical bar.
. . .	Three periods indicate that more of the same type of item can optionally follow.
⇒	A right arrow between menu options indicates you should choose each option in sequence. For example, “Choose <b>File</b> ⇒ <b>.Exit</b> ” means you should choose <b>File</b> from the menu bar, and then choose <b>Exit</b> from the File pull-down menu.

Syntax definitions and examples are indented for ease in reading.

All punctuation marks included in the syntax—for example, commas, parentheses, or quotation marks—are required unless otherwise indicated.

Syntax lines that do not fit on one line in this manual are continued on subsequent lines. The continuation lines are indented. When entering syntax, type the entire syntax entry, including the continuation lines, on the same input line.

# **PREFACE**

With jBASE release 4, the licensing model, and licensing components have been completely redesigned to give greater flexibility in deployment options and to offer further expandability for future licensing paradigms.

Since the introduction of the internet, applications have evolved from clients which retain a constant stateful connection to the server, to a world where connections are stateless and only maintained just as long as is absolutely necessary. Future licensing schemas will need to license products deployed in this way in a fair and equitable manner.

In the first instance, licensing in jBASE offers concurrent licensing in a similar fashion to previous releases. Over time, this licensing will be extended to offer more sophisticated licensing models which take into account how much use is made of jBASE itself.

# LICENSE COMPONENTS

## **jLicense Server**

The license server is the component into which license keys are entered. The license server validates these keys, stores them, and answers enquiries from jSLIM servers which have been configured to use the license server. There is typically one license server per installation of jBASE. There can be any number of jSLIM servers.

## **jLicense Client**

The license client is a graphical tool for administering the license server. It is used to show the status of any licenses installed on a particular server and allows the entry of license keys. Everything that can be accomplished using the client can also be done through a command line console.

## **jSLIM Server**

The jSLIM (System License Information Monitor) server needs to be started on every jBASE server. It provides an efficient mechanism for individual jBASE components to check their licensing status without needing to communicate with the license server every time. This allows the abstraction of individual jBASE servers away from the license server, or in a simple installation, the jSLIM server and the license server can coexist on the same machine.

# ADMINISTRATION

## Installing servers as services (jBASE 4.1.5 / Windows only)

On jBASE 4.1.5 and above, both the license server and the slim server are designed to be able to run as services on Windows platforms. The installation of these services should happen automatically at install time. Should the services need to be installed manually,

### Installing jLicenseServer

```
jLicServer install
```

### Installing jSlimServer

```
jSlimServer install
```

### Removing jLicenseServer

```
jLicServer remove
```

### Removing jSlimServer

```
jSlimServer remove
```

## Starting the servers

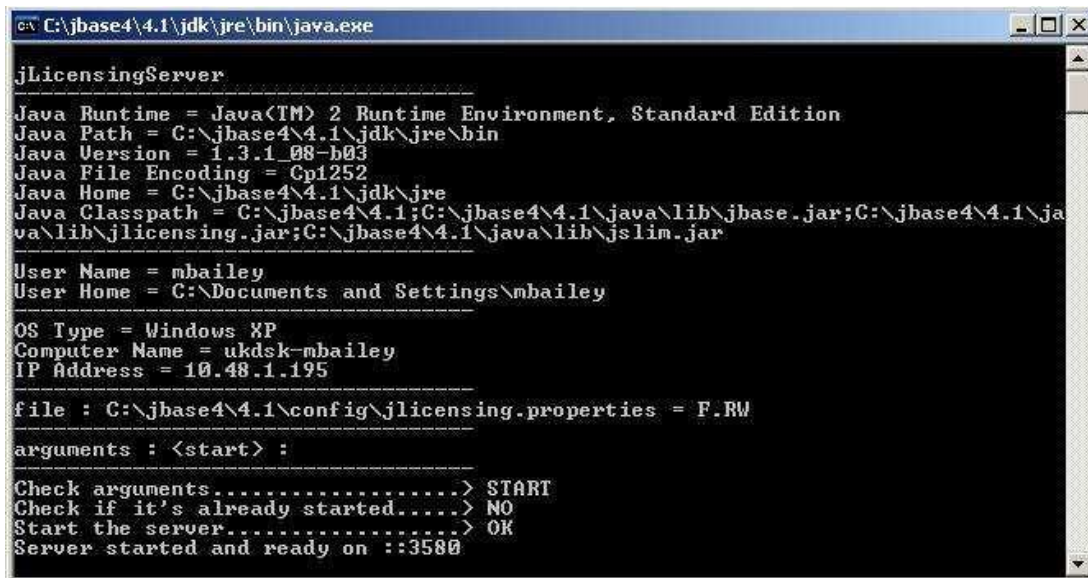
Scripts are provided to start up both the license server and the slim server. These can be found in the \$JBCRELEASEDIR/bin folder on the machine where jBASE has been installed. There are four such scripts, two for Unix / Linux installations and two for Windows. The syntax for starting the jLicenseServer is as follows;

### Starting jLicenseServer (Windows)

```
jLicServer [start | run] {-v}
```

### Starting jLicenseServer (Unix / Linux)

```
jLicServer [start | run] {-v}
```



```
C:\jbase4\4.1\jdk\jre\bin\java.exe
jLicensingServer
-----
Java Runtime = Java(TM) 2 Runtime Environment, Standard Edition
Java Path = C:\jbase4\4.1\jdk\jre\bin
Java Version = 1.3.1_08-b03
Java File Encoding = Cp1252
Java Home = C:\jbase4\4.1\jdk\jre
Java Classpath = C:\jbase4\4.1;C:\jbase4\4.1\java\lib\jbase.jar;C:\jbase4\4.1\java\lib\jlicensing.jar;C:\jbase4\4.1\java\lib\jslim.jar
-----
User Name = mbailey
User Home = C:\Documents and Settings\mbailey
-----
OS Type = Windows XP
Computer Name = ukdsk-mbailey
IP Address = 10.48.1.195
-----
file : C:\jbase4\4.1\config\jlicensing.properties = F.RW
-----
arguments : <start> :
-----
Check arguments.....> START
Check if it's already started.....> NO
Start the server.....> OK
Server started and ready on ::3580
```

Using a start option will start the server in another process. If the run option is specified, the server will start in the same process. In either case, the -v option is for verbose output to the console. It is recommended that the license server is started prior to starting the jSLIM server.



Once the license server is started, the jSlim server can be started in a similar fashion.

### **Starting jSlimServer (Windows)**

```
jSlimServer [start | run] {-v}
```

### **Starting jLicenseServer (Unix / Linux)**

```
jSlimServer [start | run] {-v}
```

## **Stopping the servers**

Scripts have been provided to stop both the license server and the slim server. The syntax for stopping the servers is similar to starting them. Once the jSLIM server has been stopped, jBASE processes on that machine will no longer be able to function and will report that no license is available.

### **Stopping jLicenseServer (Windows)**

```
jLicServer stop
```

### **Stopping jLicenseServer (Unix / Linux)**

```
jLicServer stop
```

## **License Server Console**

A command line interface to an active license server can be activated using the following syntax.

### **Start the console (Windows)**

```
jLicServer console
```

### **Start the console (Unix / Linux)**

```
jLicServer console
```

The following commands are available in the console;

Command	Description
Help	List all console commands
InputKey	Input a license key
Status	Shows the status of licenses installed
View	Show details of licenses in use
Exit	Leave the console

## Starting the Client

The license client can be started on a graphical console (will not work over telnet) using the following command;

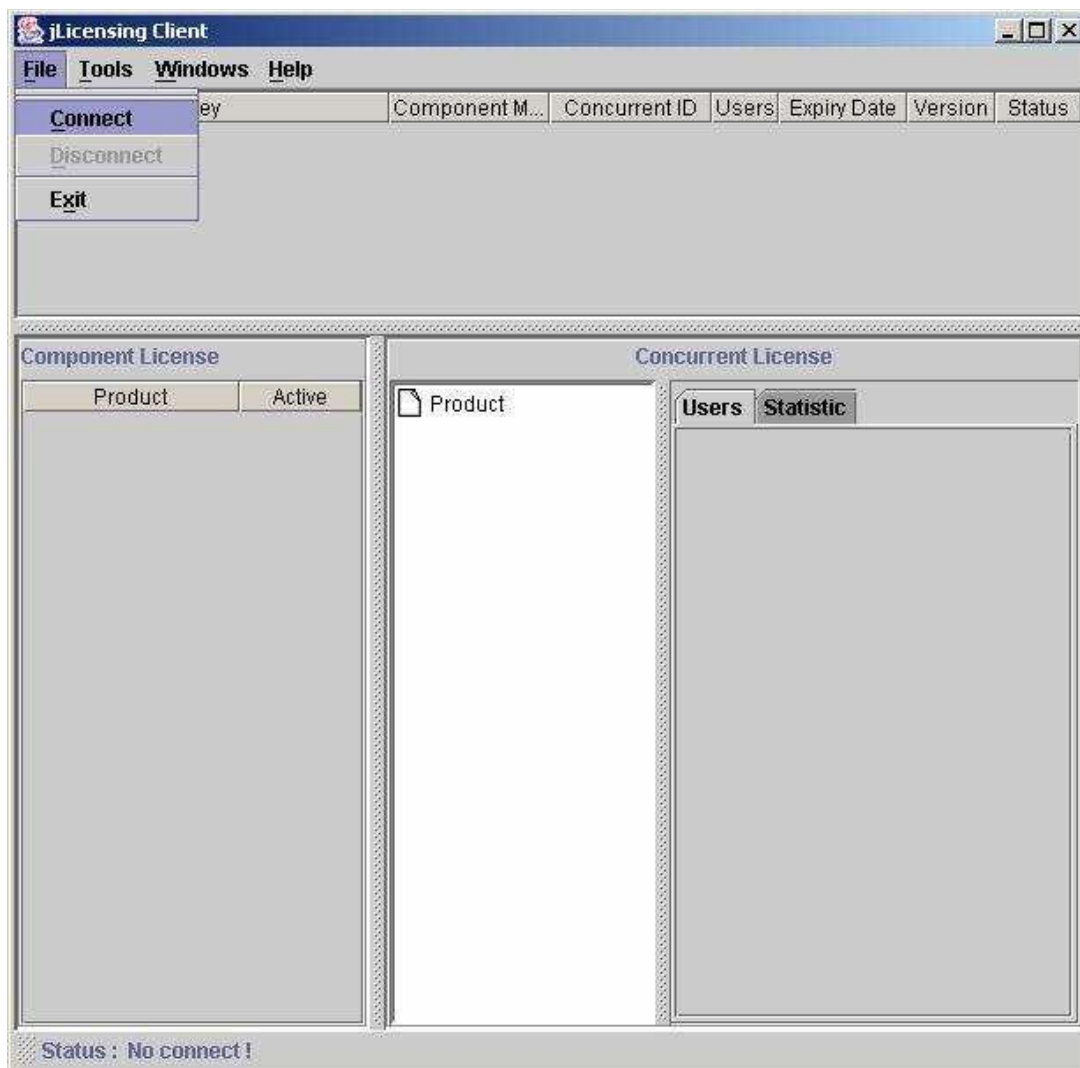
### Start the client (Windows)

```
jLicClient
```

### Start the console (Unix / Linux)

```
jLicClient
```

When the graphical client is started, it is not connected to a license server by default, even if the client is started on the same machine as the license server. In order to administer a license server, one must first connect to it using the connect option under the file menu.



There are three panes in the client view. The topmost pane displays details of any license keys that have been installed. The component license pane in the bottom left displays details of which components are licensed. The concurrent license pane in the bottom right displays details of any licenses that are currently in use.

In order to install a license key using the client, use the add key option under the tools menu, and then enter the key together with the supplied expiry date.

To administer a server that exists on a different machine to the license client, use the settings option under the tools menu, and enter the IP address together with the port that the license server is listening on.

# CONFIGURATION

## License server configuration

All the configuration settings for the license server are held in a properties file called `jlicensing.properties`, located in the `%JBCRELEASDIR%/properties` folder. The following settings are available;

Property	Description
<code>jLicensingSrv.rmiport</code>	Port number to listen on. If not specified, defaults to 3580
<code>jLicensingSrv.log.filename</code>	Any logging information goes to this file
<code>jLicensingSrv.log.maxsize</code>	Maximum size for the log file to grow to
<code>jLicensingSrv.log.typeconsole</code>	Where to send logging information 0=logfile, 1=console
<code>jLicensingSrv.log.level</code>	Level of information to log from least (0) to most (7) verbose.

## jSLIM server configuration

All the configuration settings for the jSLIM server are held in a properties file called `jlicensing.properties`, located in the `$JBCRELEASEDIR/properties` folder. The following settings are available;

Property	Description
<code>jslim.server.port</code>	Port number to listen on. If not specified, defaults to 3561
<code>jslim.licensing.server</code>	Where is the licensing server. Defaults to 127.0.0.1 if blank.
<code>jslim.licensing.port</code>	Port number that the licensing server is listening on, defaults to 3580
<code>jslim.log.filename</code>	Where to send logging information. Default is <code>jslim.log</code> if left blank
<code>jslim.log.maxsize</code>	Maximum size for the log file to grow to
<code>jslim.log.typeconsole</code>	Logging mode, 0=logfile, 1=console, 2=window
<code>jslim.log.level</code>	Level of information to log from least (0) to most (7) verbose.
<code>jslim.warn.path</code>	Specifies the path to the notification program to use. Ensure that this is correct for the target system.
<code>jslim.warn.user</code>	The default <code>.user</code> option is to broadcast the warning to all logged on users. It is strongly recommended that this option be updated to either specify a single Windows user name, or to specify a text file pathname of multiple users as <b>@pathname</b> . See Windows help on MSG for more details. On Unix using <code>/etc/wall</code> , the <code>.user</code> option must be left blank.
<code>jslim.warn.text</code>	The <code>.text</code> message displayed is shown above and can be modified

## jLicense Console configuration

Property	Description
<code>server.servername</code>	Location of the license server, defaults to 127.0.0.1
<code>server.rmiport</code>	Port number to connect on, defaults to 3580

## Environment Variables

### JBASE\_SVR\_SESSION

#### DESCRIPTION

On a machine with mixed enterprise and server licenses available, indicates that a server license is required.

#### VALUES

Set or unset.

#### DEFAULT

Unset.

#### SETTING

On sites with both server and enterprise licenses installed, an enterprise license will be assumed unless JBASE\_SVR\_SESSION is set to 1. With server only licenses installed, JBASE\_SVR\_SESSION must be set in order to obtain a license. Failure to do so will result in a licensing error. With enterprise only licenses installed, setting this environment variable will not allow a license to be allocated and a license error will be produced.

#### UNIX

```
JBASE_SVR_SESSION=1
export JBASE_SVR_SESSION
```

#### Windows

```
SET JBASE_SVR_SESSION=1
```

## Stand in Processing

The System Licence Manager has a stand in capability whereby if contact is lost with the Licence Server, licence requests can still be processed for a limited time to allow recovery. This is known as the 'grace period'.

The standby processing is designed to be resilient, such that the users will not notice any change in system behaviour. Because of this, a notification mechanism has been included to send a message to inform the system administrator (see below).

## Operation

The operational criteria when contact is lost with the Licence Server are as follows: If an RMI request fails, messages are displayed in the jSlim window as below:

```
Connecting to Licence Server.....> ERROR: RemoteException:
Connection refused to host: 127.0.0.1; nested exception is:
java.net.ConnectException: Connection refused: connect
jSlimServer has lost contact with Licence Server!!! setLicenses()
Standby Processing (239 mins left)
Please restart Licence Server to recover before time expires.
```

This is repeated every 10 seconds (default refresh time) and will allow licence allocation as normal for up to 4 hours during which time the Licence Server must be recovered. After that time no new licences will be issued, and the message:  
**Stand in processing period now expired, Licence Server must be restarted.**

As soon as the Licence Server has been restored, normal processing will resume without interruption (unless the 4 hour grace period has expired).

## Notification

The enhanced resilience of the system means that any failure might not be noticed. For this reason, a notification scheme has been put in place. This involves sending a message to a specified user or users, each time a failure is detected. This is done using the MSG command on Windows, or /etc/wall command on Unix. The message is sent a maximum of three times to ensure it is seen, and then suppressed.

The message is “**jSlimServer has lost contact with Licence Server!!!**”.

To configure this, three entries have been added to the jslim.properties file:

```
jslim.warn.path = C:\\WINDOWS\\SYSTEM32\\MSG
jslim.warn.user = *
jslim.warn.text = jSlimServer has lost contact with Licence
Server!!!
```

The `.path` option specifies the path to the notification program to use. Ensure that this is correct for the target system. This will be set as:

`C:\\WINDOWS\\SYSTEM32\\MSG` for Windows and  
`/etc/wall` for Unix.

It is blank by default, which disables the warning message display.

The default `.user` option is to broadcast the warning to all logged on users. It is strongly recommended that this option be updated to either specify a single Windows user name, or to specify a text file pathname of multiple users as **@pathname**. See Windows help on MSG for more details. On Unix using /etc/wall, the `.user` option must be left blank.

The `.text` message displayed is shown above and can be modified.



## Logging and Diagnostics

A logging mechanism is provided in both jLicServer and jSlimServer to write diagnostic and progress messages to a log file. This is created in \$JBCRELEASEDIR/logs directory as jslimserver.log and jlicserver.log.

Logging is controlled by the 'log.level' parameter (see Configuration above) and is normally effectively off by being set to zero. This is the default setting which simply records the starting and stopping of the daemons and any fatal errors that occur. The levels range from 1 to 7, with increasing detail recorded as the value goes up. Not all levels are currently used. The levels implemented are shown below.

### jLicServer

The licence server is 'driven' by RMI requests from jSlimServer every 10 seconds, rather than sitting in a loop polling for requests. Each request is logged at various levels of detail as follows:

0 – logs the starting and stopping of the daemons and any fatal errors that occur.

4 – logs the occurrence of the request and the number of licences free:

e.g.  
02/01/07 13:58:39 ----- Request from jSlimServer  
02/01/07 13:58:39 :Static Licences Free:  
02/01/07 13:58:39 :Product ID 1 = 15  
02/01/07 13:58:39 :Product ID 13 = 10

5 – Also logs all of the users holding licences

e.g.  
02/01/07 13:58:39 :ukdsk-swaters\_4 (port number shown for Server licence)  
02/01/07 13:58:39 :ukdsk-swaters\_192.168.80.3 (host shown for Enterprise)

6 – Also logs the Licence Metrics counts (not currently used)

Therefore level 4 or 5 are recommended for this testing. Edit the file: %JBCRELEASEDIR%\config\jlicensing.properties and change the entry jLicensingSrv.log.level as required. This value is only read at startup of daemon.

## **jSlimServer**

The jSlimServer issues request to licence server every 10 seconds. Each request is logged at various levels of detail as follows:

0 – logs the starting and stopping of the daemons and any fatal errors that occur.

4 – The connection request is logged as follows:

```
02/01/07 14:02:39 : Connecting to Licence Server.....> OK
```

```
02/01/07 14:02:49 :2 ports found
```

5 – Also each port with a licence is reported:

```
02/01/07 14:02:49 : Port No. 4
```

```
02/01/07 14:02:49 : Port No. 5 client:ukdsk-swaters_192.168.80.3
```

## Comment Sheet

Please give page number and description for any errors found:

Page	Error

Please use the box below to describe any material you think is missing; describe any material which is not easily understood; enter any suggestions for improvement; provide any specific examples of how you use your system which you think would be useful to readers of this manual. Continue on a separate sheet if necessary.

Copy and paste this page to a word document and include your name address and telephone number. Email to [documentation@jbase.com](mailto:documentation@jbase.com)