

# Hex-Rays

## Common Troubleshooting Concepts for Installing IDA Floating Licenses On a Windows Server



**Version 1.0 (2020-02-20)**

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## **1 About This Document**

### **1.1 Purpose**

The purpose of this document is to present a non-exhaustive list of potential errors that may be encountered when installing and running IDA Pro and the IDA Floating Licenses on a Windows Server. Solutions, work-arounds and remedies will be proposed.

### **1.2 Scope**

#### **1.2.1 In Scope**

The following are in scope:

- Troubleshooting issues arising during installation and usage of the floating license server and IDA
- license server maintenance operations relevant to troubleshooting

#### **1.2.2 Out of Scope**

Detailed Installation procedure of IDA Floating License Server is out of scope. This is explained in a separate document.

### **1.3 Revision History**

2020-02-20: 1.0 Initial release

## 2 How To Use this Document

### 2.1 Procedures



Some remedies will require you to follow a specific procedure. Each procedure has a series of steps to follow. See example below:

Step	Action	Result
1.	Enter <code>http://localhost:8090/</code> in your browser and submit.	FlexNet Publisher UI displays
2.	Select the Administration tab.	Administration tab displays
3.	Select Vendor Daemon Configuration tab	Vendor Daemons page displays

### 2.2 Quick Guides and Detailed Guides

Each procedure will have a Quick Guide and a Detailed Guide.

- The Quick Guide will provide a simple table that shows each procedure step and the expected result. The quick guide will not include any notes, screen shots or comments. The quick guide will be used by those who are already familiar with the procedure, but simply need a reminder of the steps to follow.
- The Detailed Guide will provide each procedural step as well as screen shots associated with each step. It will include notes and comments that may be useful. The detailed guide is intended for those who will be installing the License Manager for the first time.

### 2.3 Notes



Where appropriate, additional comments and notes will be included. Notes will be indicated by this graphic.

### 3 Introduction

This document will provide a non-exhaustive list of potential errors and issues that may be encountered when installing and running the Floating Licenses Server for IDA on license server in a Windows environment. Remedies for the listed issues, as well as Tips and Tricks, will be proposed for each issue.

#### 3.1 Preparation

To be able to use the IDA floating licenses, it is necessary first to configure a license management server.

Floating license versions of IDA use [FlexNet License Manager](#) from [Flexera](#) to ensure license compliance. For detailed information refer to the FlexNet Administration Guide.



This troubleshooting guide is based on Imadmin x64 for Windows. This is the recommended installer. Some parts may apply to other platforms as well.

#### Download links

Please choose the platform where your *license server* will be running. It does not have to be for the same platform as IDA; any license server can manage IDA versions for different OSes.

Platform	Imadmin (recommended) (web-based UI server)		Imgrd binary (command-line based server)	Hex-Rays daemon	Utilities
	interactive installer	package for manual install			
Microsoft® Windows® x86	<a href="#">installer</a>	<a href="#">zip package</a>	<a href="#">Imgrd.exe binary</a>	<a href="#">hexrays.exe binary</a>	<a href="#">Imtools</a> <a href="#">Imutil</a>
Microsoft® Windows® x64	<a href="#">installer</a>	<a href="#">zip package</a>	<a href="#">mgrd.exe binary</a>	<a href="#">hexrays.exe binary</a>	<a href="#">Imtools</a> <a href="#">Imutil</a>
Linux x86 (LSB Certified™)	<a href="#">installer</a>	<a href="#">tgz package</a>	<a href="#">Imgrd binary</a>	<a href="#">hexrays binary</a>	<a href="#">Imutil</a>

#### 4 Using Log Files in Troubleshooting

The license server produces several log files while it is running. The log files contain useful information, such as error or warning messages. In Windows, they are usually written to C:\ProgramData\FLEXlm\ladmin\logs. This can be changed at the time of installation.



Some logs can be viewed via the Web UI:

- ladmin.log: Server Configuration tab → Logging,
- hexrays.log: vendor daemon page → Vendor Daemon Log

The main log files are as follows:

Log File	Description
ladmin.log	This is the log file for ladmin service itself. Start and stop events are recorded here.
web.log	This is the log file for the Web UI part. If ladmin fails to start, this file will cite the reason – e.g. Web UI port is already used.
hexrays.log	This is the log file for the vendor daemon. It records checkout attempts and information about .lic file(s) used. In the event of checkout problems on the IDA side, this is a good starting point to identify and resolve the issue.
access.log	This file logs accesses to the Web UI from the browser.

## 5 Common Problems During Installation

### 5.1 Service doesn't start up



If the Imadmin service doesn't start up, try to run Imadmin interactively from command line.

You can troubleshoot service startup issues by using the following steps:

Step	Action
1.	Open command prompt and go to the Imadmin directory, e.g. <code>cd "C:\Program Files\FlexNet Publisher 64-bit License Server Manager"</code>
2.	Run Imadmin interactively: <code>Imadmin.exe -foreground -configDir C:\ProgramData\FLEXIm\Imadmin\conf</code>
3.	Check for error messages on the console.

### 5.2 Web UI is Not Available

Symptoms: error while visiting the Web UI page (<http://localhost:8090>)

Probable Cause	Suggested Remedy
Service is not running	Check that the Imadmin service is started and/or try to restart it (e.g. via Control Panel's Services applet)
Service fails to start due to the port being used has already been taken.	Check web.log and/or Imadmin.log for error messages

### 5.3 Vendor daemon (hexrays.exe does not start)

Symptoms: hexrays.exe is not present in the process list and/or error message shown while importing the .lic file in Web UI

Probable Cause	Suggested Remedy
OS is preventing the executable from starting	Run hexrays.exe manually from command prompt and check for error messages. <ul style="list-style-type: none"><li>• Expected output: "Vendor daemons must be run by the license server manager"</li><li>• If it fails, check that there is no antivirus or any other monitoring solution that could prevent it from running. Disable the</li></ul>

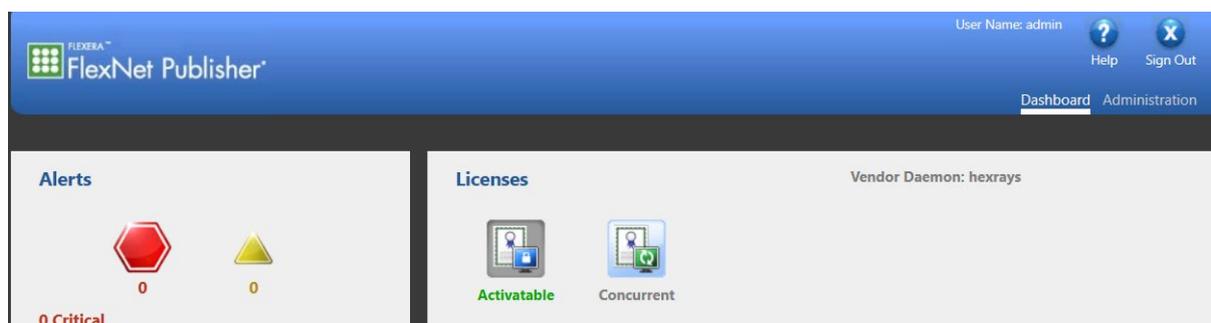
Probable Cause	Suggested Remedy
	solution or add an exception, if this is the case.
Daemon cannot communicate with Imadmin	<ul style="list-style-type: none"> <li>• Check hexrays.log and Imadmin.log for warnings or error messages.</li> <li>• Check that the local firewall does not prevent daemon from using TCP ports.</li> </ul>
Daemon cannot open fixed port	Change the daemon port (via web UI or .lic file). <ul style="list-style-type: none"> <li>• To change the port follow the instructions detailed below</li> </ul>

#### 5.4 How to Change the Daemon Port Via Web UI – Quick Guide

Step	Action	Result
1.	Enter http://localhost:8090/ in your browser and submit.	Imadmin Web UI displays
2.	Select the Administration tab.	Administration tab displays
3.	Select Vendor Daemon Configuration tab	Vendor Daemons page displays
4.	Select hexrays vendor	Vendor Daemons:Hexrays page displays
5.	Scroll down to General Configuration section	General Configuration section displays.
6.	Select Use this port, and enter the port value that you want to use.	Port number displays
7.	Select Save	The new configuration is saved
8.	Restart the License Server	The newly configured port is active

#### 5.5 How to Change the Daemon Port Via Web UI – Detailed Guide

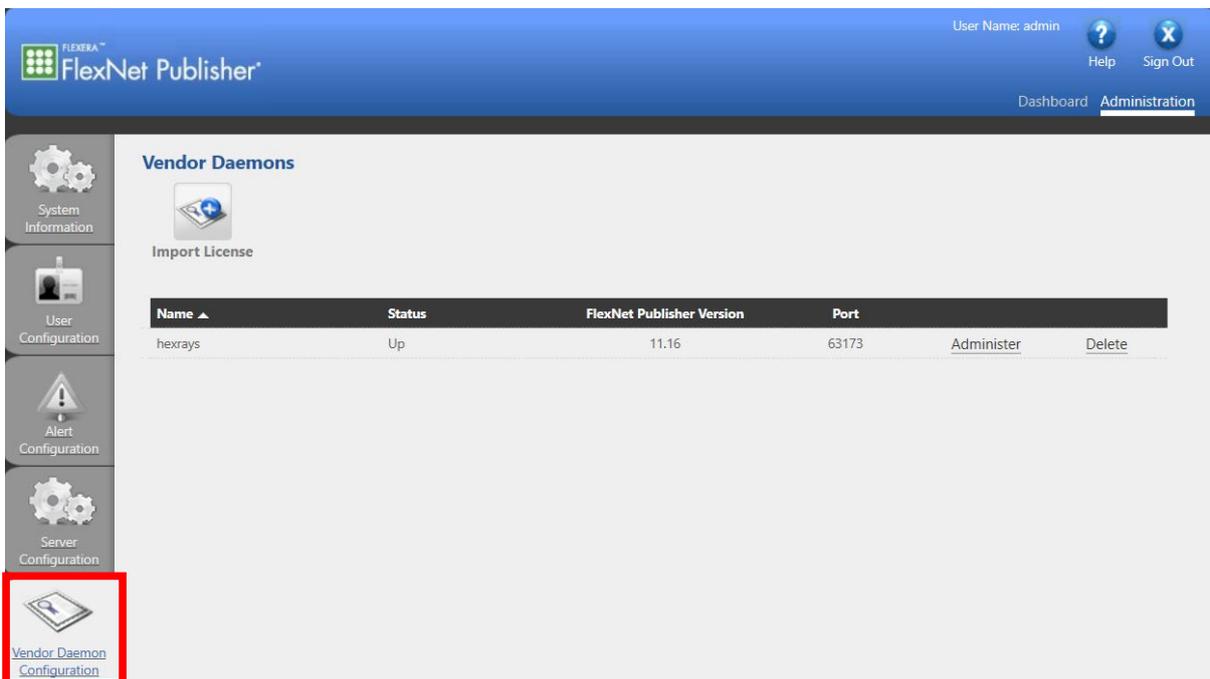
**Step 1.** Enter http://localhost:8090/ in your browser and submit. FlexNet Publisher UI displays.



**Step 2.** Select the Administration tab. Administration tab displays



**Step 3.** Select Vendor Daemon Configuration tab. Vendor Daemons page displays.



**Step 4.** Select hexrays. Vendor Daemons:Hexrays page displays

The screenshot shows the FlexNet Publisher Administration interface. At the top, the user is logged in as 'admin'. The main content area is titled 'Vendor Daemons' and contains an 'Import License' button and a table of active daemons. A red box highlights the 'hexrays' entry in the table, and a red arrow points from it to a detailed configuration window for 'Vendor Daemon:hexrays'. This window shows the daemon's name and port (63173), along with action buttons like 'Stop', 'Reread License Files', and 'Rotate Report Logs'. The 'General Configuration' section is partially visible at the bottom.

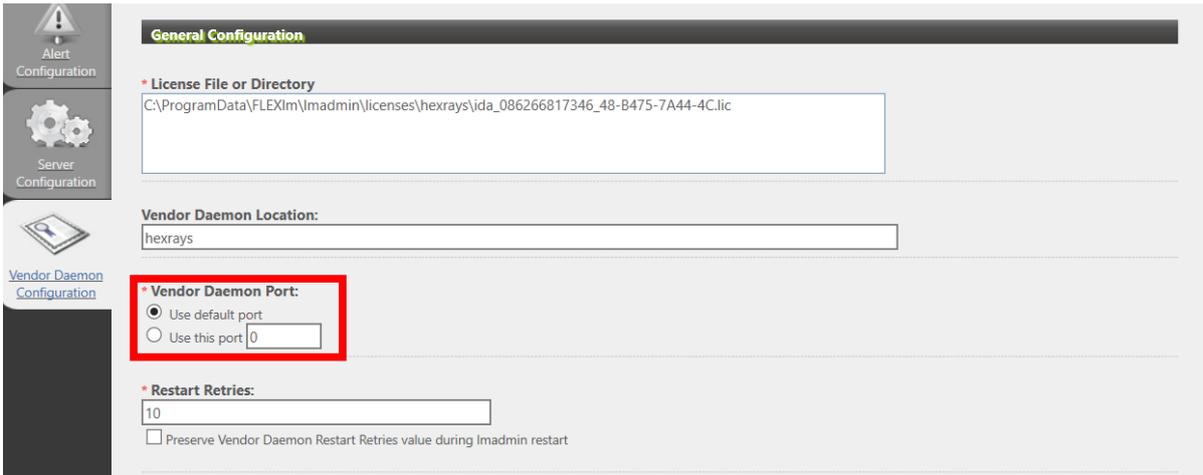
Name	Status	FlexNet Publisher Version	Port	Administer	Delete
hexrays	Up	11.16	63173		

**Step 5.** Scroll down to General Configuration section. General Configuration section displays.

This screenshot shows the 'General Configuration' section for the 'hexrays' vendor daemon. The section title is highlighted with a red box. Below it, there are several configuration fields:

- License File or Directory:** A text box containing the path `C:\ProgramData\FLEXIm\ladmin\licenses\hexrays\ida_086266817346_48-B475-7A44-4C.lic`.
- Vendor Daemon Location:** A text box containing the name `hexrays`.
- Vendor Daemon Port:** Radio buttons for 'Use default port' (selected) and 'Use this port' with a text box containing `0`.
- Restart Retries:** A text box containing the value `10`, with a checkbox for 'Preserve Vendor Daemon Restart Retries value during ladmin restart'.

**Step 6.** Select **Use this port**, and enter the port value that you want to use.



**Step 7.** Select **Save**. The new configuration is saved

**Step 8.** Restart the License Server. The newly configured port is active.

### 5.6 How to Change the Port via .lic – Quick Guide

Step	Action	Result
1.	Open the .lic file with Notepad or another text editor.	Licenses file details display.
2.	Confirm that you are modifying the configuration on the desired server.	The Server this_host line confirms which server configuration you are modifying.
3.	In the vendor daemon line, specify the required Port number – <b>EXAMPLE:</b> VENDOR hexrays PORT=30000	A new port number displays.
4.	Save the file	The new port designation is saved.
5.	For lmadmin, re-import the .lic file For lmgrd, restart the server.	The new port is active.

|

### 5.7 How to Change the daemon Port via .lic – Detailed Guide

**Step 1.** Open the .lic file with Notepad or another text editor. Licenses file details display.

```
SERVER this_host 086266817346
VENDOR hexrays
FEATURE IDAPROFW hexrays 7.4 permanent 1 \
  VENDOR_STRING=48-B475-7A44-4C SUPERSEDE=IDAPROFW DUP_GROUP=UHD \
  ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
  Floating license" SN=48-XXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
  A330 02EA C32A 5ACB 5EC6 CAB3 8CB7 D61F 116B BB6D 0761 13EC \
  1209 05A9 75FF 65F8 81CF 3100 84D1 D61B 8EF6 3F8B 642A BD2D \
  9FCB 9643"
FEATURE HEXX64FW hexrays 7.4 permanent 1 \
  VENDOR_STRING=55-3B81-8AA4-8C SUPERSEDE=HEXX64FW DUP_GROUP=UHD \
  ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
  Floating license" SN=55-3 XXXXXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
  27B6 5AE3 8D3C 7938 7E47 C6E8 6B4E E6AC E125 784F DC71 1E09 \
  0280 5BD0 42AE 5C23 D113 1D20 98E9 AD1F 4D0E CB77 8240 1F35 \
  BA3C 0F1B"
```

**Step 2.** Confirm that you are modifying the configuration on the desired server. The **Server this\_host** line confirms which server configuration you are modifying.

```
SERVER this_host 086266817346
VENDOR hexrays
FEATURE IDAPROFW hexrays 7.4 permanent 1 \
VENDOR_STRING=48-B475-7A44-4C SUPERSEDE=IDAPROFW DUP_GROUP=UHD \
ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
Floating license" SN=48-XXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
A330 02EA C32A 5ACB 5EC6 CAB3 8CB7 D61F 116B BB6D 0761 13EC \
1209 05A9 75FF 65F8 81CF 3100 84D1 D61B 8EF6 3F8B 642A BD2D \
9FCB 9643"
FEATURE HEXX64FW hexrays 7.4 permanent 1 \
VENDOR_STRING=55-3B81-8AA4-8C SUPERSEDE=HEXX64FW DUP_GROUP=UHD \
ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
Floating license" SN=55-3 XXXXXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
27B6 5AE3 8D3C 7938 7E47 C6E8 6B4E E6AC E125 784F DC71 1E09 \
0280 5BD0 42AE 5C23 D113 1D20 98E9 AD1F 4D0E CB77 8240 1F35 \
BA3C 0F1B"
```

**Step 3.** In the vendor daemon line, specify the required Port number – EXAMPLE: **VENDOR hexrays PORT=30000**. A new port number displays.

```
SERVER this_host 086266817346
VENDOR hexrays
FEATURE IDAPROFW hexrays 7.4 permanent 1 \
VENDOR_STRING=48-B475-7A44-4C SUPERSEDE=IDAPROFW DUP_GROUP=UHD \
ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
Floating license" SN=48-XXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
A330 02EA C32A 5ACB 5EC6 CAB3 8CB7 D61F 116B BB6D 0761 13EC \
1209 05A9 75FF 65F8 81CF 3100 84D1 D61B 8EF6 3F8B 642A BD2D \
9FCB 9643"
FEATURE HEXX64FW hexrays 7.4 permanent 1 \
VENDOR_STRING=55-3B81-8AA4-8C SUPERSEDE=HEXX64FW DUP_GROUP=UHD \
ISSUED=22-Nov-2019 BORROW=4320 NOTICE="Mark Montgomery, \
Floating license" SN=55-3 XXXXXXXXXXXXXXX XXXXXXXXXXXXXXX XXXXXXX \
27B6 5AE3 8D3C 7938 7E47 C6E8 6B4E E6AC E125 784F DC71 1E09 \
0280 5BD0 42AE 5C23 D113 1D20 98E9 AD1F 4D0E CB77 8240 1F35 \
BA3C 0F1B"
VENDOR hexrays PORT=30000
```

**Step 4.** Save the file. The new port designation is saved.

**Step 5.** For lmadm, re-import the .lic file. For lmgrd, restart the server. The new port is active.

## 6 Common Errors on IDA Side

Error N°	Error Message	Suggested Remedy
-140,148	Daemon version too old	Update daemon. For instructions on how to update the daemon see the upgrade guide.
-25,147 -25,334	Server system does not support this version of this feature	.lic file needs to be updated on the server. See the upgrade guide.
-15,570	License server not set up or down	Set up license server or activate license server.
-15,570	System Error: 115.	Check that the hostname is properly configured on server.
-15,570	System Error: 36 "Operation now in progress"	Check for ports being blocked
-15,10032	FLEXnet Licesning error	Check for ports being blocked
-18,147	Feature missing.	Bad/outdated lic file was used. Redo activation using the latest ida.key and update .lic on server
-96,491	Unable to checkout: License server machine is down or not responding.	It is possible that the WAN has timed out. Check that the ping value is below 100ms. Otherwise try setting environment variable FLEXLM_TIMEOUT=10000000.
-96, 7	(winsock 11003) user:	Probably caused by using an old version of hexrays vendor daemon. Reinstall lmadm and/or update hexrays daemon (see the upgrade guide).
-96,7	System Error: 11001 "WinSock: Host not found (HOST_NOT_FOUND)	Check hostname configuration.
-5,147	(feature missing) .lic file not reread;	Restart daemon or the whole license server

## 7 Possible Errors while Adding .lic in Web UI

Issue	Suggested Remedy
Cannot upload a license file that has no VENDOR lines	An endline conversion needed for .lic. Make sure that .lic file for Windows server uses CRLF (DOS) endlines and for Linux/Mac server uses LF (Unix) endlines. unix2dos or dos2unix utility may help here.
Daemon fails to start	The host ID is incorrect. Check the logs for error messages (see <b>section 4</b> ). Contact support if you need to change the host ID.
Encountered problem saving license server configuration.	There is no write access for ladmin user to server.xml. Fix access to the data directory (C:\ProgramData\FLEXlm\ladmin) or reinstall ladmin.
Vendor daemon can't talk to lmgrd - Cannot connect to the license server system.	The hostname is not correctly configured on server.

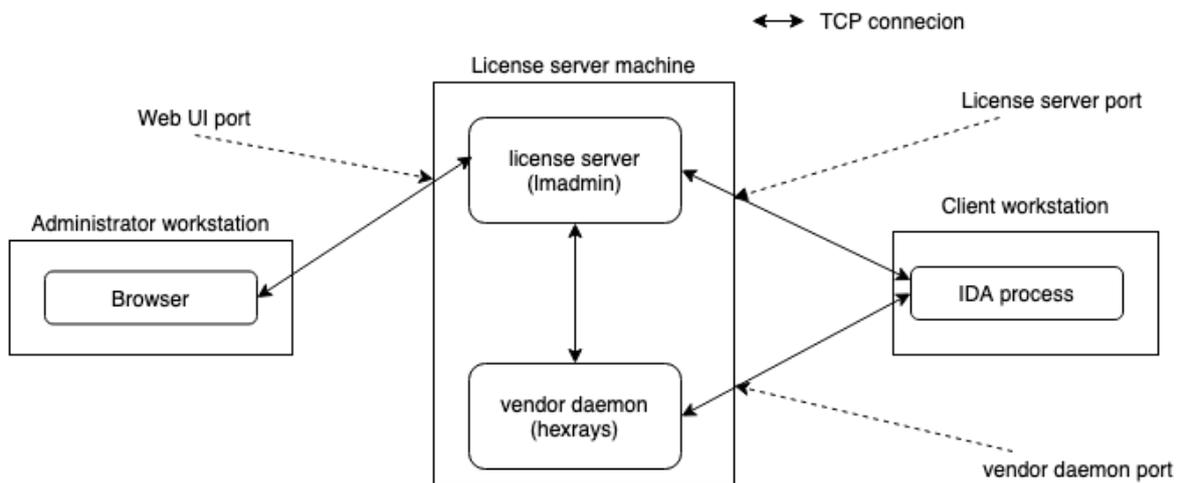
## 8 Dealing With Updates and Upgrades

Please follow the steps described in the document available at <https://www.hex-rays.com/products/ida/support/flexlm/#upgrade>

## 9 Debugging Connection issues

### 9.1 Introduction

A common problem when using a floating license server is connection problems occurring between IDA and the license server. The following diagram shows the ports used by the license server and IDA



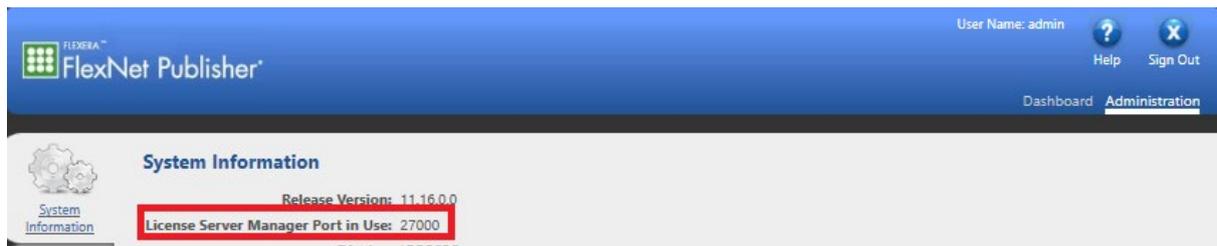
Thus, the following ports need to be opened on the license server for proper functioning:

1. Web UI port (if you need to administer the server from other machines in your network). This port is 8090 by default but can be changed at install time or afterwards (via Web UI or command-line option).
2. License server port (lmadmin port). Usually lmadmin uses the first free port from the range 27000- 27009 but it can also be changed either via Web UI or by editing the SERVER line in the .lic file
3. Vendor daemon port (hexrays.exe port). By default the port is allocated dynamically on each run so it's not fixed, however you can allocate a fixed port via Web UI or by editing the VENDOR line in the .lic file.

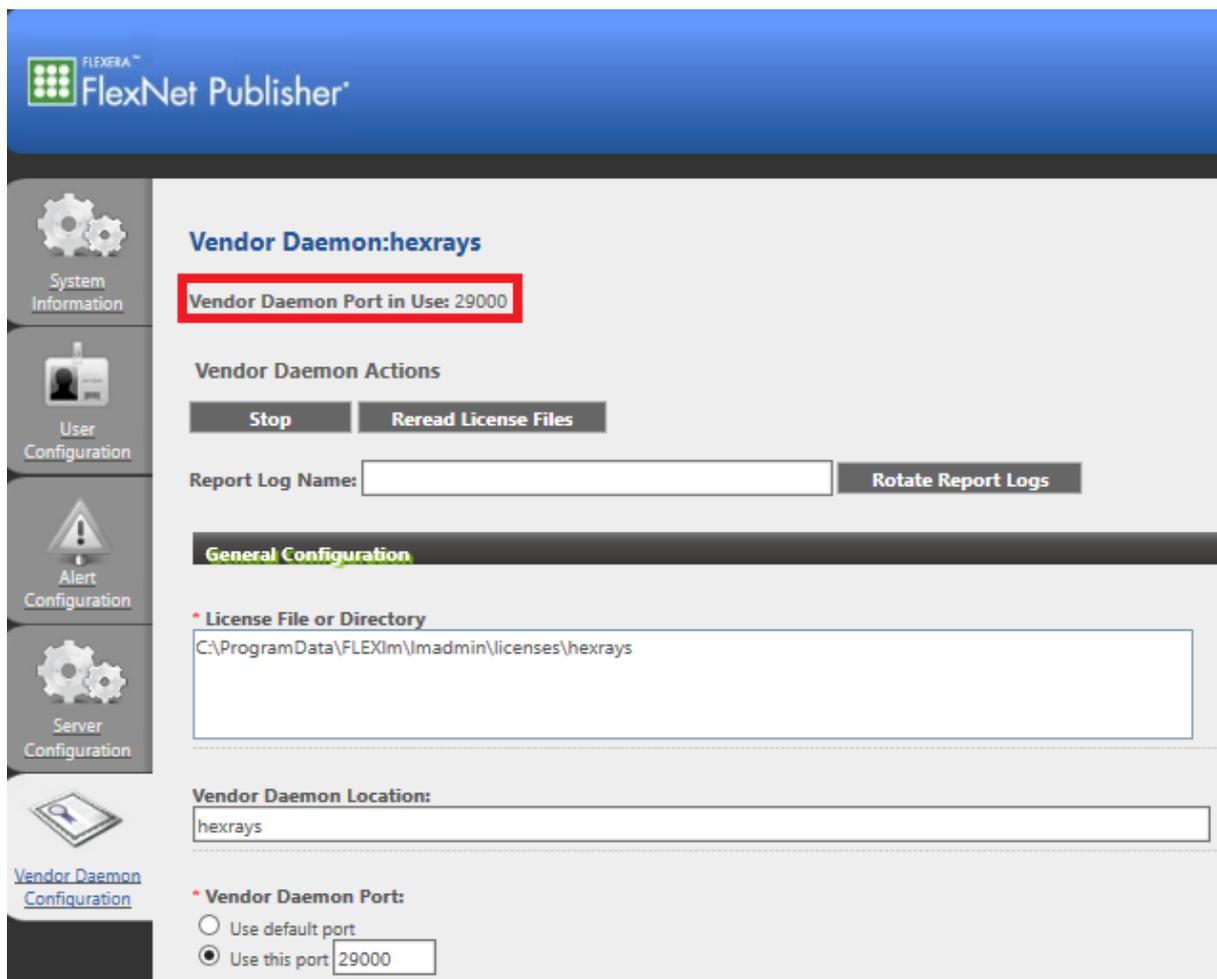
### 9.2 Determining currently used ports

To determine the currently used ports, you can use the Web UI or `netstat` utility.

Lmadmin port: **Administration** → **System Information** → **License Server Manager Port in Use**



Vendor daemon port **Administration** → **Vendor Daemon Configuration** → **Hexrays** → **Vendor Daemon Port in Use**



Via netstat:

In an administrator command prompt, type **netstat -a -b** and look for lines mentioning TCP, LISTENING followed by lmadmin.exe and hexrays.exe

```
C:\> Administrator: Command Prompt
[!admin.exe]
TCP 0.0.0.0:27000 IGORSPC:0 LISTENING
[!admin.exe]
TCP 0.0.0.0:29000 IGORSPC:0 LISTENING
[hexrays.exe]
TCP 0.0.0.0:49664 IGORSPC:0 LISTENING
[lsass.exe]
TCP 0.0.0.0:49665 IGORSPC:0 LISTENING
Can not obtain ownership information
```

### 9.3 Verifying connection to the ports

Once you determined the ports, verify that you can connect to them from the workstation(s) running IDA. This can be done using any program which is able to connect to an arbitrary TCP port, for example, telnet, nc (netcat), or Putty.

Examples of successful connection

```
C:\>telnet licserver 29000
[blank screen showing. Press Enter several times]
C:\>
```

```
nc -v licserver 27000
Connection to localhost 27000 port [tcp/*] succeeded!
```

Examples of unsuccessful connection:

```
C:\>telnet licserver 29001
Connecting To licserver...Could not open connection to the
host, on port 29001: Connect failed
```

```
nc -v licserver 27001
nc: connect to licserver port 27001 (tcp) failed: Connection
refused
```

If you are using correct ports but are unable to connect, there is probably a firewall preventing the connection. Check firewall settings on both machines (server and client), as well as any routers/switches in between. Add necessary exceptions to allow the connection through.

## 10 Other issues

### 10.1 Web UI Password recovery

If you forgot the Web UI password, it can be reset on the server using the following steps:

- go to the ladmin's install directory, e.g.  
`cd "C:\Program Files\FlexNet Publisher 64-bit License Server Manager"`
- use ladmin's `-usermod` command to change the password of admin account:  
`ladmin.exe -configDir C:\ProgramData\FLEXlm\ladmin\conf -usermod admin -Pass <new password>`
- Now you should be able to login with the new password.

### 10.2 Debian : bash: ladmin: No such file or directory

The ladmin binary expects a loader to be present at `/lib64/ld-lsb-x86-64.so.3`.

Alas, Debian has dropped support for LSB a few years ago, and thus this file typically doesn't exist on recent systems.

This can be trivially worked around with the following command:

- `sudo ln -s /usr/lib64/ld-linux-x86-64.so.2 /lib64/ld-lsb-x86-64.so.3`