

ZeroTurnaround License Server

User Manual

1.4.0

Overview

The ZeroTurnaround License Server is a solution for the clients to host their JRebel licenses. Once the user has received the license he purchased, the file can be uploaded to the central license server to be distributed among the developer seats.

Installation

Download the ZIP package available at <http://www.zereturnaround.com/jrebel/license-server/> and unzip the archive to the desired location.

The content of the directory should look as follows:

```
C:/zt-license-server/
|- bin/
|- conf/
    |- db.properties
    `-- frontend.properties
|- lib/
|- Changelog.txt
`-- README.txt
```

The conf/db.properties file determines the database driver and connection used by the license server for storing its data. By default the HSQLDB database is used, but MySQL is also supported. To switch to MySQL, replace the db.properties file with db.mysql.properties (rename db.mysql.properties to db.properties) and change the values to reflect your MySQL setup. The database schema will be automatically created on startup, so the user should have create privileges.

The conf/frontend.properties file allows you to list proxy server IP addresses if you want to use a front end HTTP server between your users and the license server, for example for load balancing.

The bin/ directory contains scripts for Windows and *nix platforms to execute the server. But generally the server can be started by the following command:

```
java -jar lib/zt-license-server.jar [port]
```

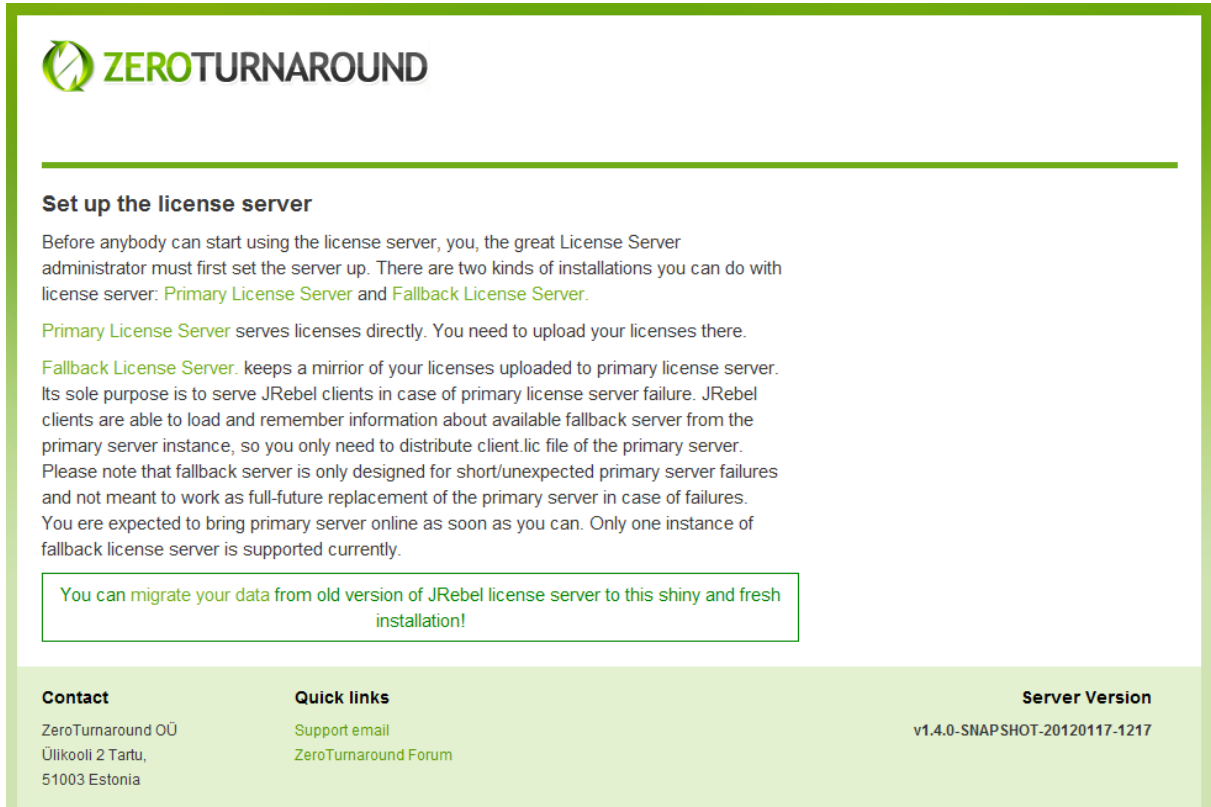
Once the command above is executed, the following messages will indicate that the server is started:

```
18:12:25,589 INFO ~ Connected to jdbc:hsqldb:file:data/db
18:12:26,796 INFO ~ Application 'ZeroTurnaround License Server' is now started !
18:12:27,680 INFO ~ Slf4jLog Started SslSelectChannelConnector@0.0.0.0:8443
```

The license server is now available at <http://localhost:8443> – open the URL in the browser and proceed with registration.

Configuration

Browse to <http://localhost:8443> and you should see the following screen:



The screenshot shows the ZeroTurnaround website interface for setting up a license server. At the top left is the ZeroTurnaround logo. Below it is a horizontal line. The main heading is "Set up the license server". The text explains that before anyone can start using the license server, the administrator must first set it up. There are two installation options: Primary License Server and Fallback License Server. The Primary License Server serves licenses directly, while the Fallback License Server acts as a mirror. A callout box states: "You can migrate your data from old version of JRebel license server to this shiny and fresh installation!". At the bottom, there is a footer with contact information, quick links, and the server version (v1.4.0-SNAPSHOT-20120117-1217).

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Set up the license server

Before anybody can start using the license server, you, the great License Server administrator must first set the server up. There are two kinds of installations you can do with license server: [Primary License Server](#) and [Fallback License Server](#).

[Primary License Server](#) serves licenses directly. You need to upload your licenses there.

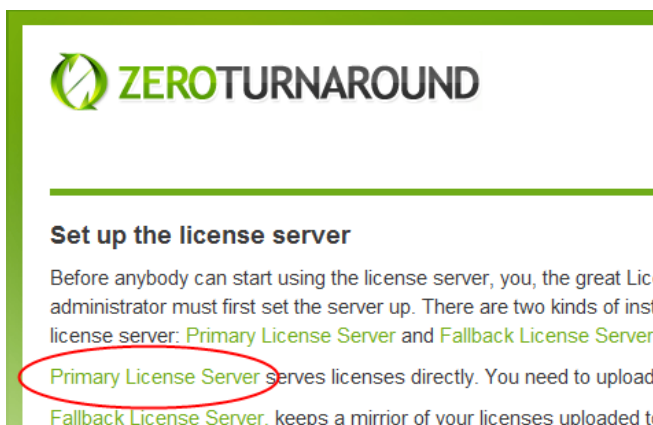
[Fallback License Server](#) keeps a mirror of your licenses uploaded to primary license server. Its sole purpose is to serve JRebel clients in case of primary license server failure. JRebel clients are able to load and remember information about available fallback server from the primary server instance, so you only need to distribute client.lic file of the primary server. Please note that fallback server is only designed for short/unexpected primary server failures and not meant to work as full-future replacement of the primary server in case of failures. You are expected to bring primary server online as soon as you can. Only one instance of fallback license server is supported currently.

You can migrate your data from old version of JRebel license server to this shiny and fresh installation!

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If you are upgrading your JRebel License Server to a new version, you can migrate the data from the old server to the new one. Read more below.

Click the “Primary License Server” link to proceed with the registration:



This is a partial screenshot of the same ZeroTurnaround configuration page. It shows the logo, the heading "Set up the license server", and the beginning of the text. The link "Primary License Server" is circled in red.

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Set up the license server

Before anybody can start using the license server, you, the great License administrator must first set the server up. There are two kinds of installations you can do with license server: [Primary License Server](#) and [Fallback License Server](#).

[Primary License Server](#) serves licenses directly. You need to upload your licenses there.

[Fallback License Server](#) keeps a mirror of your licenses uploaded to primary license server.

The next screen will ask for the server registration details. Note that the email will serve as administrator user name for this server instance. The host name should be set to the IP of the machine where the license server will be hosted.

Set up the License Server

Before anybody can start using the license server, you, the great License Server administrator must first set the server up. You will need to register yourself below.

You can migrate your data from old version of JRebel license server to this shiny and fresh installation!

Be especially careful with the server host and port. These values cannot be changed once set. Forcefully doing so will cause every single JRebel that uses this license server to fail to acquire license, and the only remedy for that would be for everyone to re-download their client.lic token.

	<input type="text" value="Email (Username)"/>
	Make sure to enter a valid email address. This will be your login username.
	<input type="text" value="Password"/>
	<input type="text" value="Confirm Password"/>
	<input type="text" value="First name"/>
	<input type="text" value="Last name"/>
	<input type="text" value="Company"/>
Hostname	<input type="text" value="IgorBljahhin-PC.home"/>
	This is the IP address or host name of the license server that all JRebel clients will connect to.
Port	<input type="text" value="8443"/>
	This is the port of the license server that all JRebel clients will connect to.
	<input type="checkbox"/> *I agree with the terms and conditions of the JRebel License Server License Agreement .
	<input type="button" value="Set up the license server!"/>

Contact

ZeroTurnaround OÜ
Ülkooli 2 Tartu,
51003 Estonia

Quick links

[Support email](#)
[ZeroTurnaround Forum](#)

Server Version

V1.4.0-SNAPSHOT-20120117-1217

After submitting the registration for the server is ready for service.

The fallback license server

It is possible to setup a fallback instance of the license server either on the same host or some other machine that can reach the primary instance of the license server via the network.

To configure the fallback instance, click the “Fallback License Server” link at the setup page when the license server instance is started the first time.

Set up the license server

Before anybody can start using the license server, you, the great License Server administrator must first set the server up. There are two kinds of installation license server: [Primary License Server](#) and [Fallback License Server](#).

[Primary License Server](#) serves licenses directly. You need to upload your li

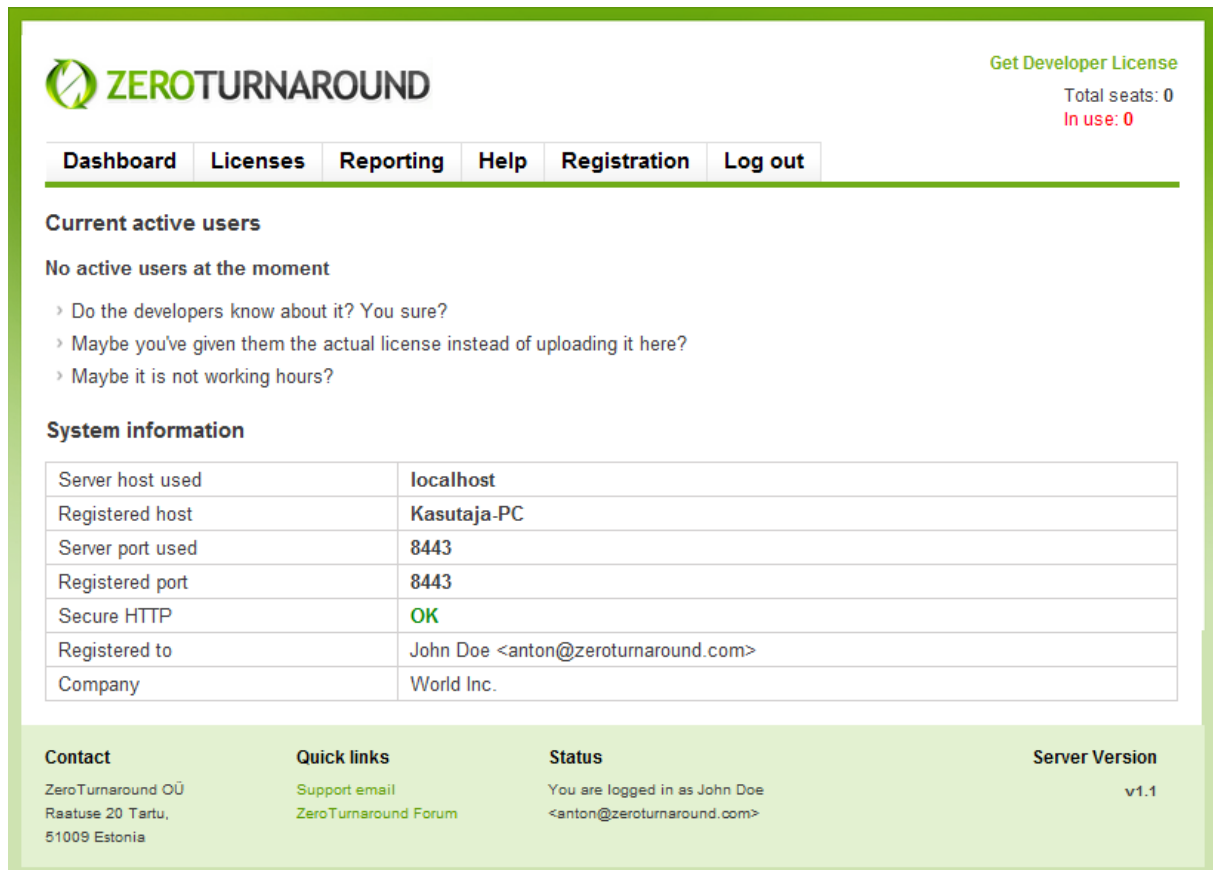
[Fallback License Server](#) keeps a mirror of your licenses uploaded to primary. Its sole purpose is to serve JRebel clients in case of primary license server

The setup form will ask for the same information as for the primary server instance. Additionally, the primary server host information is required in order for the fallback instance to communicate with the primary license server.

Hostname	<input type="text" value="192.168.51.1"/>
	This is the IP address or host name of the license server that all JRebel clients will connect to.
Port	<input type="text" value="9443"/>
	This is the port of the license server that all JRebel clients will connect to. You generally do not need to modify it!
Primary Server Hostname	<input type="text" value="192.168.51.1"/>
	This is the IP address or host name of the primary license server.
Primary Server Port	<input type="text" value="9443"/>
	This is the port of the primary license server.
	<input checked="" type="checkbox"/> *I agree with the terms and conditions of the JRebel License Server License Agreement .
	<input type="button" value="Set up the license server!"/>

Validating the installation

On the very first screen after the user logs in to the application, the dashboard is displayed. On the dashboard, the general information is presented about the server and current active users.



The screenshot displays the ZeroTurnaround dashboard. At the top left is the ZeroTurnaround logo. To the right, there is a link for 'Get Developer License' and license statistics: 'Total seats: 0' and 'In use: 0'. A navigation bar contains tabs for 'Dashboard', 'Licenses', 'Reporting', 'Help', 'Registration', and 'Log out'. The main content area is titled 'Current active users' and shows 'No active users at the moment'. Below this, there are three bullet points with right-pointing chevrons: 'Do the developers know about it? You sure?', 'Maybe you've given them the actual license instead of uploading it here?', and 'Maybe it is not working hours?'. A 'System information' section contains a table with the following data:

Server host used	localhost
Registered host	Kasutaja-PC
Server port used	8443
Registered port	8443
Secure HTTP	OK
Registered to	John Doe <anton@zeroturnaround.com>
Company	World Inc.

At the bottom, there are four columns of information: 'Contact' (ZeroTurnaround OÜ, Raatuse 20 Tartu, 51009 Estonia), 'Quick links' (Support email, ZeroTurnaround Forum), 'Status' (You are logged in as John Doe <anton@zeroturnaround.com>), and 'Server Version' (v1.1).

Managing your licenses

To manage your licenses, proceed to the **Account** tab. On the screen you will find the information about your current licenses: the timeframe for which the licenses are valid, how many seats are available, etc.

ZEROTURNAROUND Download developer token
Total seats: 0
In use: 0

Dashboard Account Reporting Help Log out

Current licenses
No licenses currently. Upload your JRebel licenses using the form below!

Add license
Choose File No file chosen Upload

Contact
ZeroTurnaround OÜ
Raatuse 20 Tartu,
51009 Estonia

Quick links
Support email
ZeroTurnaround Forum

Status
You are logged in as Anton
Ahripov
<anton@zeroturnaround.com>

Server Version
v1.0.2beta

To upload the new license file, push **Choose File** button, the file open dialog will appear. Select the license file you would like to store on the server and hit **Upload**.

ZEROTURNAROUND Download developer token
Total seats: 0
In use: 0

Dashboard Account Reporting Help Log out

Current licenses
No licenses currently. Upload your JRebel licenses using the form below!

Add license
Choose File No file chosen Upload

Contact
ZeroTurnaround OÜ
Raatuse 20 Tartu,
51009 Estonia

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Status
You are logged in as Anton
Ahripov
<anton@zeroturnaround.com>

Server Version
v1.0.2beta

Open
Libraries Documents
Search Documents

Organize New folder

Documents library
Includes: 2 locations
Arrange by: Folder

Name	Date modified	Type
Bluetooth Exchange Folder	9.08.2010 13:58	File folder
Camtasia Studio	5.09.2010 23:39	File folder
My Dropbox	8.09.2010 19:30	File folder
javarebel.lic	10.09.2010 15:25	LIC File

File name: javarebel.lic All Files Open Cancel

Once you have uploaded the file, you can proceed with distributing the licenses among the developer seats.

ZEROTURNAROUND Download developer token
Total seats: 10
In use: 0

Dashboard Account Reporting Help Log out

Current licenses

Licensee	Organization	Seats	Start date	End date	Status	Delete
Toomas Rõmer	ZeroTurnaround	10 seat(s)	15:06 08 Apr 2010	15:06 10 Apr 2011	Valid	X

Add license
 No file chosen

Contact
ZeroTurnaround OÜ
Raatuse 20 Tartu,
51009 Estonia

Quick links
[Support email](#)
[ZeroTurnaround Forum](#)

Status
You are logged in as Anton
Ahripov
<anton@zeroturnaround.com>

Server Version
v1.0.2beta

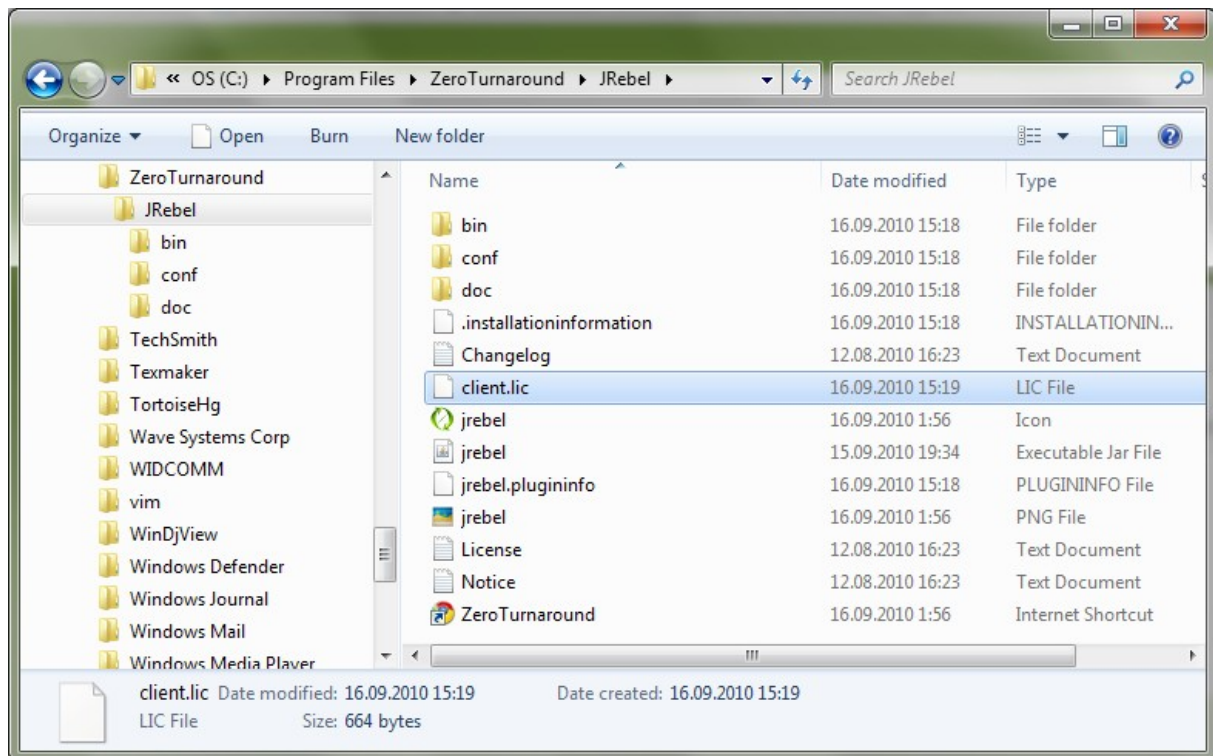
Download developer token

To make a single JRebel installation aware of the license server one should download the token from the license server. On the upper right of the screen, find a link **Download developer token**. Now there are two options of how to distribute the token:

- 1) Right mouse click, choose **Copy link address...**, and send it to the person who needs a license. The URL you will send to the person will look similar to
<https://ls.zeroturnaround.com/headless/client.lic?uid=6c10asdg-7fh7-1234-ga2i-1234abcd5432>
- 2) Or, download client.lic file yourself by hitting **Download developer token** link, and send the file over to all the developers in your team.

Installing the license file

JRebel application will use *client.lic* file to verify the license against the central server from where it was downloaded. To make JRebel installation aware of the fact that it should go to a particular URL for license verification, one should place *client.lic* file in the same directory where *jrebel.jar* is located, (e.g. *C:\Program Files\ZeroTurnaround\JRebel\client.lic*).



After the file is placed in the correct location JRebel will use it to communicate with the central license server. Below is the example log of a Tomcat server running with the new license enabled.

```
Using CATALINA_HOME: "C:\lib\apache-tomcat-6.0.29"
Using CATALINA_TMPDIR: "C:\lib\apache-tomcat-6.0.29\temp"
Using JRE_HOME: "C:\jdk1.6.0_21"
Using CLASSPATH: "C:\lib\apache-tomcat-6.0.29\bin\bootstrap.jar"
#####
JRebel 3.1.2a (201009151026) with Enterprise Add-On! (see http://jrebel.com/enterprise)
(c) Copyright ZeroTurnaround OU, Estonia, Tartu.
Over the last 1 days JRebel prevented at least 14 redeploys/restarts saving you about 0,6 hours.
This product is licensed to ZeroTurnaround for up to license server managed developer seats on site.
#####
16.09.2010 15:34:45 org.apache.coyote.http11.Http11Protocol init
INFO: Initializing Coyote HTTP/1.1 on http-8080
16.09.2010 15:34:46 org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deploying web application directory docs
16.09.2010 15:34:46 org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deploying web application directory examples
JRebel: Contacting license server ls.zeroturnaround.com:443.
JRebel: Successfully acquired license token (valid for 10 minutes)
16.09.2010 15:34:47 org.apache.coyote.http11.Http11Protocol start
INFO: Starting Coyote HTTP/1.1 on http-8080
16.09.2010 15:34:47 org.apache.jk.common.ChannelSocket init
INFO: JK: ajp13 listening on /0.0.0.0:8009
16.09.2010 15:34:47 org.apache.jk.server.JkMain start
INFO: Jk running ID=0 time=0/17 config=null
16.09.2010 15:34:47 org.apache.catalina.startup.Catalina start
INFO: Server startup in 1711 ms
Connected to server
```

Migrating your data from old server to the new one

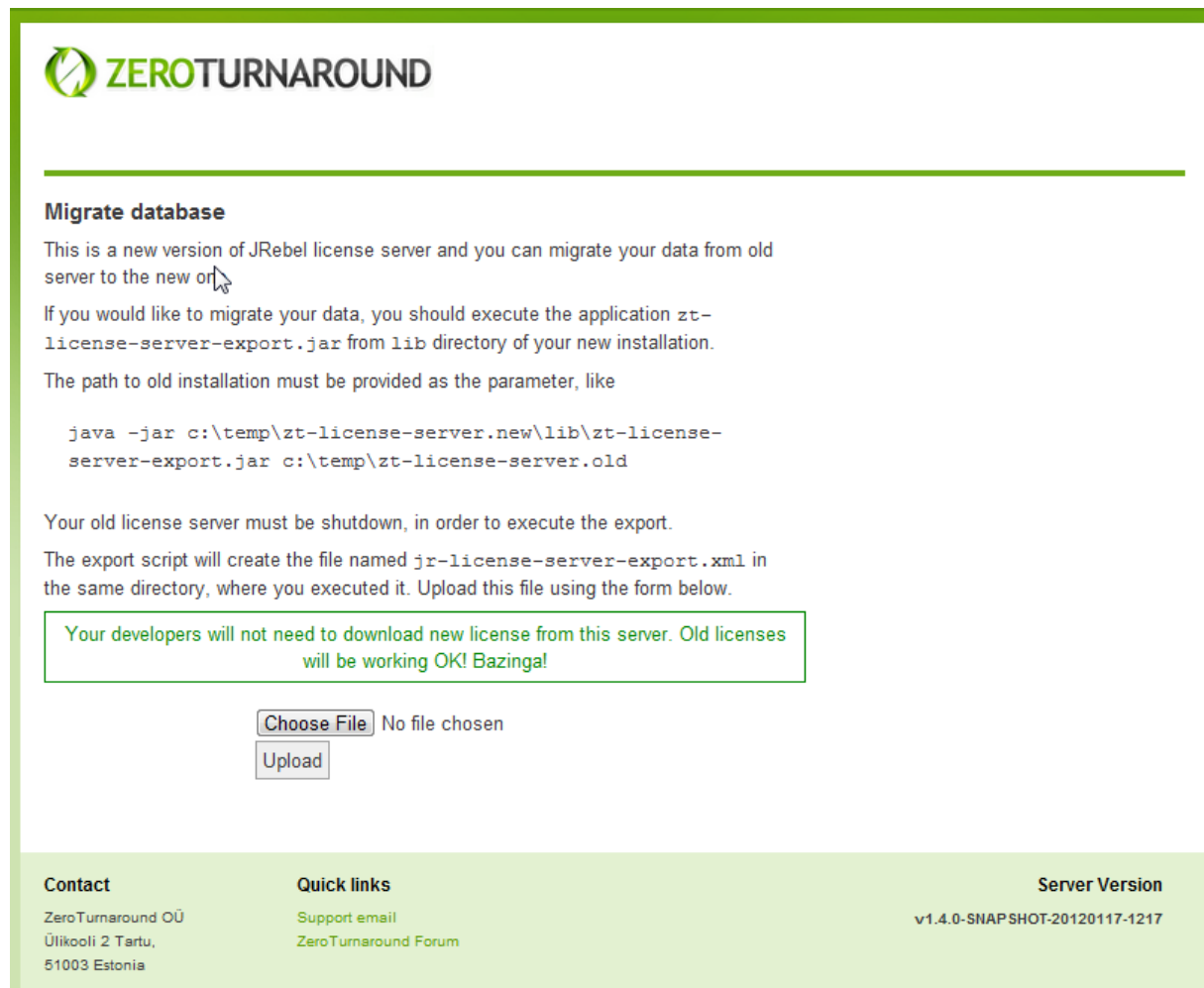
If you would like to upgrade the licence server to new version and would like to migrate your data, you should execute the application `zt-license-server-export.jar` from `lib` directory of your new installation.

The path to old installation must be provided as the parameter, like

```
java -jar c:\zt-license-server\lib\zt-license-server-export.jar c:\zt-license-server.old
```

Your old license server must be shutdown, in order to execute the export.

The export script will create the file named `jr-license-server-export.xml` in the same directory, where you executed it. Upload this file using <https://localhost:8443/setup/migrate> page.



The screenshot shows the ZeroTurnaround migration interface. At the top left is the ZeroTurnaround logo. Below it is a section titled "Migrate database". The text explains that this is a new version of the JRebel license server and provides instructions on how to migrate data from an old server. It includes a code block for the export command and a note that the old license server must be shutdown. A green box contains the message: "Your developers will not need to download new license from this server. Old licenses will be working OK! Bazinga!". Below this is a file upload area with a "Choose File" button (showing "No file chosen") and an "Upload" button. At the bottom, there is a footer with contact information, quick links, and server version details.

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Migrate database

This is a new version of JRebel license server and you can migrate your data from old server to the new one.

If you would like to migrate your data, you should execute the application `zt-license-server-export.jar` from `lib` directory of your new installation.

The path to old installation must be provided as the parameter, like

```
java -jar c:\temp\zt-license-server.new\lib\zt-license-server-export.jar c:\temp\zt-license-server.old
```

Your old license server must be shutdown, in order to execute the export.

The export script will create the file named `jr-license-server-export.xml` in the same directory, where you executed it. Upload this file using the form below.

Your developers will not need to download new license from this server. Old licenses will be working OK! Bazinga!

No file chosen

Contact ZeroTurnaround OÜ Ülikooli 2 Tartu, 51003 Estonia	Quick links Support email ZeroTurnaround Forum	Server Version v1.4.0-SNAPSHOT-20120117-1217
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The migration process can be performed on fresh installation only. Once you set up the server, the migration cannot be done.

Running Jrebel License Server as Windows service

License server is standalone application written in Java, which makes it platform-independent. Using scripts provided with license server, one can easily run the server as service in Linux, but running the server as service in Windows needs an additional software or configuration.

Below you find the manual how to run JRebel License Server as service in Windows using great well-known application named [Java Service Wrapper](#) from [Tanuki Software](#). Although the configuration process is well described in product's documentation, let's show how Java Service Wrapper can be integrated into JRebel License Server.

STEP 1. Obtaining software

Download the ZIP package with Java Service Wrapper available at Tanuki Software site <http://wrapper.tanukisoftware.com/doc/english/download.jsp> and unzip the archive to desired location.

Download the ZIP package with JRebel License Server available at ZeroTurnaround site <http://zeroturnaround.com/jrebel/license-server/> and unzip the archive to desired location.

STEP 2. Putting the Puzzle Together

Java Service Wrapper is able to integrate with application in four different ways, which are described in the documentation at <http://wrapper.tanukisoftware.com/doc/english/integrate.html>. We choose [fourth method](#), because JRebel License Server is configured to run as an executable jar.

There are four directories which are required to be configured in order to be able to use the Wrapper.

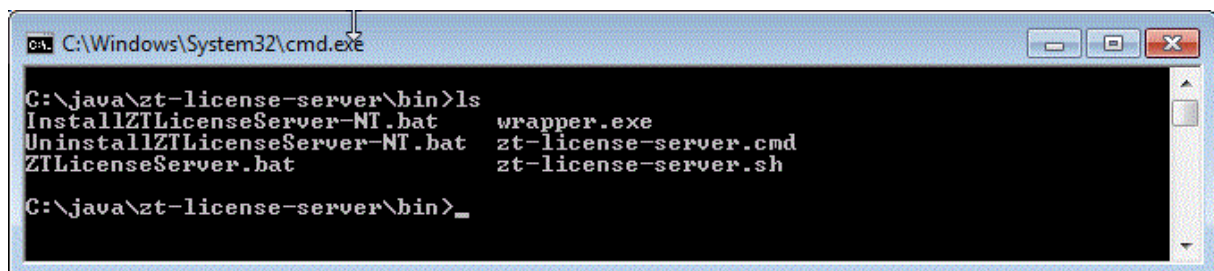
bin directory

First, please copy the following files from Java Service Wrapper directory into JRebel License Server bin directory:

```
{WRAPPER_HOME}\bin\wrapper.exe  
{WRAPPER_HOME}\src\bin\App.bat.in  
{WRAPPER_HOME}\src\bin\InstallApp-NT.bat.in  
{WRAPPER_HOME}\src\bin\UninstallApp-NT.bat.in
```

Rename the three batch files to ZTLICENSESERVER.bat, InstallZTLICENSESERVER.bat, UninstallZTLICENSESERVER.bat.

You should now have:



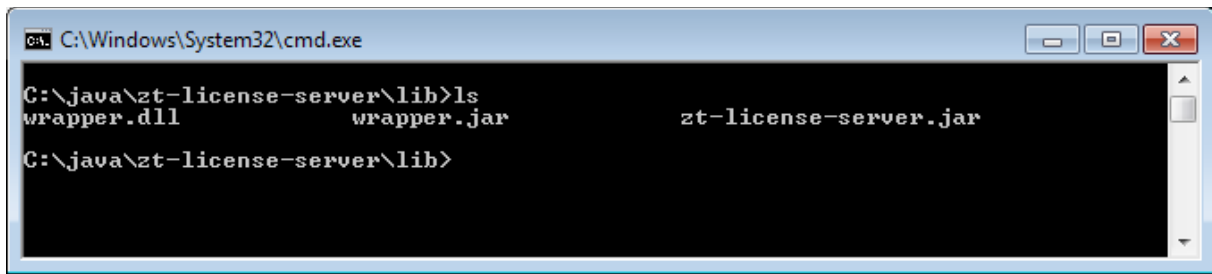
```
cmd C:\Windows\System32\cmd.exe  
C:\java\zt-license-server\bin>ls  
InstallZTLICENSESERVER-NT.bat  wrapper.exe  
UninstallZTLICENSESERVER-NT.bat  zt-license-server.cmd  
ZTLICENSESERVER.bat  zt-license-server.sh  
C:\java\zt-license-server\bin>_
```

lib directory

Copy the following two files into the JRebel License Server lib directory:

```
{WRAPPER_HOME}\lib\wrapper.dll  
{WRAPPER_HOME}\lib\wrapper.jar
```

You should now have:



```
C:\Windows\System32\cmd.exe
C:\java\zt-license-server\lib>ls
wrapper.dll          wrapper.jar          zt-license-server.jar
C:\java\zt-license-server\lib>
```

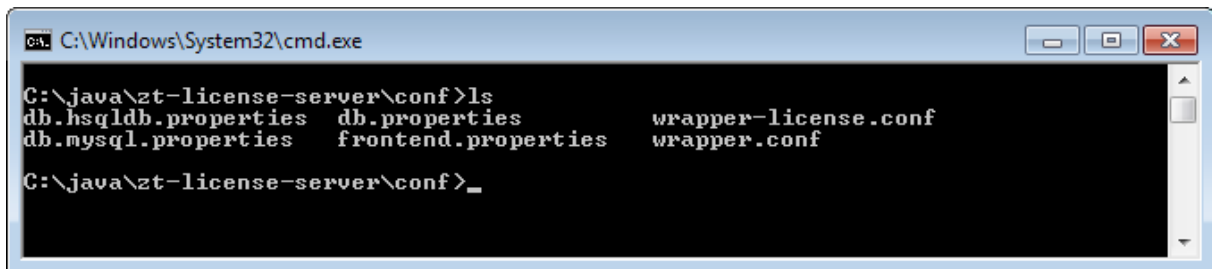
conf directory

Copy the following template file wrapper.conf.in into the conf directory of JRebel License Server and rename it to wrapper.conf

```
{WRAPPER_HOME}\src\conf\wrapper.conf.in
```

Obtain your license of Java Service Wrapper and put the license code into wrapper-license.conf in the conf directory of JRebel License Server (Hint: you need to register on Tanuki Software site to obtain trial license).

You should now have:



```
C:\Windows\System32\cmd.exe
C:\java\zt-license-server\conf>ls
db.hsqldb.properties  db.properties      wrapper-license.conf
db.mysql.properties   frontend.properties wrapper.conf
C:\java\zt-license-server\conf>_
```

logs directory

Create logs directory in JRebel License Server folder.

STEP 3. Configuring Java Service Wrapper

Open the [wrapper.conf](#) file into an editor and make the changes below. Detailed description of configuration steps can be found at <http://wrapper.tanukisoftware.com/doc/english/integrate-jar-win.html#wrapperconf>, but we will change this file in six places:

1. Add `wrapper.java.classpath.2=../lib/zt-license-server.jar` after `wrapper.java.classpath.1=../lib/wrapper.jar` line.
2. Replace `<YourMainClass>` text with `com.zeroturnaround.jrebel.WebServer`.
3. Replace `@app.long.name@` text with `ZeroTurnaround License Server`.
4. Replace `@app.name@` text with `ztlicenseserver`.
5. Replace `@app.long.name@` text with `ZeroTurnaround License Server`.
6. Replace `@app.description@` text with `ZeroTurnaround License Server`.

Putting it all together, we get the following:

```

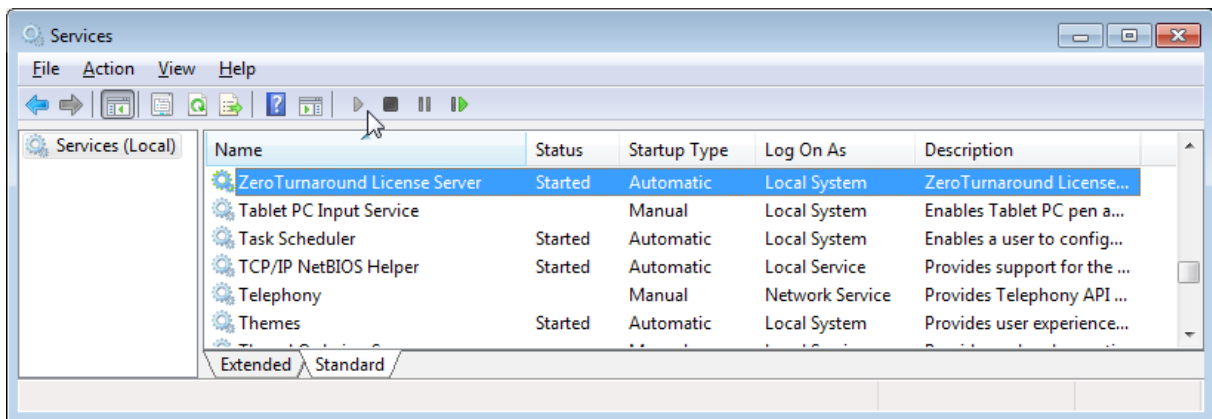
wrapper.java.classpath.2=../lib/zt-license-server.jar
wrapper.app.parameter.1=com.zeroturnaround.jrebel.WebServer
wrapper.console.title=ZeroTurnaround License Server
wrapper.name=ztlicenseserver
wrapper.displayname=ZeroTurnaround License Server
wrapper.description=ZeroTurnaround License Server

```

STEP 4. Running JRebel License Server

JRebel License Server now can be run by executing the batch file `bin\ZTLicenseServer.bat`. Please try to execute the server at least once as a console application to verify the configuration before installing it as a service. If server is working OK as console application you can stop it by pressing Ctrl-C and install it as Windows service by executing `bin\InstallZTLicenseServer-NT.bat`.

After successful installation ZeroTurnaround License Server service will appear in the list of Windows services and you can start it like usual Windows service:



That's it! Your license server is now running as service.

Going offline

Normally Jrebel clients ping the license server every 10 minutes. If Jrebel client does not get the connection with the license server, then the client stops reloading the classes.

The version 1.4.0 of the license server and 4.5.5 of Jrebel client support the new feature called „offline mode“. Offline mode means, that developers can request the offline token from the license server and go offline for one day.

To enable the offline mode the developer should execute the following command in the console of their computer:

```

java -Drebel.user=${username} -jar %REBEL_HOME%\jrebel.jar
-go-offline

```

where `${username}` is some name to identify the user and `%REBEL_HOME%` is the path Jrebel home directory. For example:

```

C:\Program Files\ZeroTurnaround\JRebel>java
-Drebel.user=bender -jar jrebel.jar -go-offline

```

It could be useful to put the command above into the script file. If JRebel client successfully get the offline token from the license server, then its output looks like:

```
C:\Program Files\ZeroTurnaround\JRebel>java -Drebel.user=bender -jar jrebel.jar -go-offline
JRebel 4.5.5 (201201171639)
(c) Copyright ZeroTurnaround OU, Estonia, Tartu.

Over the last 30 days JRebel prevented
at least 125 redeploys/restarts saving you about 5,1 hours.

Over the last 120 days JRebel prevented
at least 1092 redeploys/restarts saving you about 44,3 hours.

This product is licensed to ZeroTurnaround
and number of seats is being managed by license server.

JRebel: Contacting license server PlanetExpress-PC:8443.
JRebel: Successfully acquired off-line license token (valid for 23 hours and 59
minutes)
SUCCESS: Acquired a new off-line license token.
```

The dashboard of the license server looks like:

ZEROTURNAROUND Get Developer License
Total seats: 10
In use: 3

Dashboard Licenses Reporting Help Registration Log out

Current active users

	IP	Started	Last update	JRebel version	Name
●	192.168.1.104	13:46 17 Jan 2012	13:46 17 Jan 2012	4.6-SNAPSHOT	Unknown
●	192.168.1.2	15:29 17 Jan 2012	15:38 17 Jan 2012	4.6-SNAPSHOT	Unknown
●	192.168.1.10	17:30 17 Jan 2012	17:30 17 Jan 2012	4.6-SNAPSHOT	bender

System information

Server host used	localhost
Registered host	IgorBljahhin-PC
Server port used	8443
Registered port	8443
Secure HTTP	OK
Registered to	Igor Bljahhin <igor.bljahhin@gmail.com>
Company	ZeroTurnaround

Contact ZeroTurnaround OÜ
Ülikooli 2 Tartu,
51003 Estonia

Quick links Support email
ZeroTurnaround Forum

Status You are logged in as Igor
Bljahhin
<igor.bljahhin@gmail.com>

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If for some reason you want go from „offline“ mode to „online“ mode before your token expires, then execute the same command providing „-go-online“ parameter:

```
C:\Program Files\ZeroTurnaround\JRebel>java
-Drebel.user=bender -jar jrebel.jar -go-online
```

which gives the following output

```
JRebel 4.6-SNAPSHOT (201201171639)
```

```
(c) Copyright ZeroTurnaround OU, Estonia, Tartu.
```

```
Over the last 30 days JRebel prevented
at least 125 redeploys/restarts saving you about 5,1 hours.
```

```
Over the last 120 days JRebel prevented
at least 1092 redeploys/restarts saving you about 44,3 hours.
```

```
This product is licensed to ZeroTurnaround
and number of seats is being managed by license server.
```

```
JRebel: Contacting license server PlanetExpress-PC:8443.
```

```
JRebel: Successfully acquired license token (valid for 10 minutes)
```

```
SUCCESS: Acquired a new on-line license token.
```