

LANforge-GUI Installation

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Overview

The LANforge-GUI is the graphical interface to the LANforge server. The GUI is written in Java and should work on any platform that supports it, including Windows, MAC and Linux. We have specific instructions and support for Windows, MAC and Linux. A general section at the end of this document will describe installations on other platforms.

1. Choosing a Machine

The suggested **minimum** client platform specification is:

- 1 Ghz processor
- 512 MB RAM
- 200MB Free Disk Space
- Monitor/Video Card capable of 1024 x 960 resolution or higher.

For **optimal** performance, we recommend at least:

- 2 Ghz+ processor
- 1 GB RAM

- 500MB Free Disk Space
- Monitor/Video Card capable of 1200 x 1064 resolution or higher.

2. Download LANforge Software

Navigate your web browser to the Candela Technologies [Downloads](#) page. You will need a Candela Technologies user account to access the downloads page. If you do not have one, you can create one on the [Accounts](#) page.

Select the LANforge product you wish to install and save it to your /home/lanforge directory (Linux) or desktop (Windows). You may need to edit your web browser preferences to save downloads to this location.

3. Installing LANforge-GUI on Linux

The LANforge-GUI has been extensively tested on Fedora Linux. However, it should work on any version of Linux that supports a recent Java Runtime Environment (JRE).

- **Choose a user** to own the LANforge-GUI. Any non-root user should work, but for this document it is assumed that your user is called 'lanforge.' If you need to create a new user (on Fedora, for example) you can use these commands (as root):

```
# adduser lanforge
# passwd lanforge (Choose a password for the lanforge user)
```

- **Log in** as user lanforge:

```
# su - lanforge
```

- **Choose a directory** in which to install the LANforge-GUI. We suggest \$HOME/lanforge. If this directory does not yet exist, you can add it with this command (as user lanforge):

```
$ mkdir $HOME/lanforge
```

- **Download the LANforge-GUI distribution** to the newly created \$HOME/lanforge directory. See [Download LANforge Software](#) above.

NOTE: For CD installation, use this procedure as root:

```
# mount /mnt/cdrom (This step may not be necessary)
# cp /mnt/cdrom/LANforgeGUI_*_Linux.tar.bz2 $HOME/lanforge
```

- **Extract the LANforge-GUI distribution** as lanforge. For example:

```
$ cd $HOME/lanforge
$ tar -xvjf LANforgeGUI_*_Linux.tar.bz2 (Uncompresses the distribution)
```

- **For release 5.0.9 and onwards, install the LANforge-GUI Desktop icons** as the **root** user.

For example:

```
# su -
# cd $HOME/lanforge/LANforgeGUI_X.X.X (Where X.X.X is the release number of the
```

GUI)

```
# ./lfgui_install.bash
```

- **Start the LANforge-GUI** as lanforge with the commands:

```
$ cd $HOME/lanforge/LANforgeGUI_X.X.X
```

```
$ ./lfcclient.bash (Starts the GUI)
```

- **Click through End User License Agreements** for LANforge-Server and LANforge-GUI by clicking 'OK'.

- **Optional configurations:**

NOTE: As of release 5.1.2, these options can be configured from within the LANforge-GUI in the 'Control->Preferences' pulldown. menu.

The LANforge-GUI supports several command-line options that will help you customize its look-and-feel to your particular needs. These options can be added to the lfcclient.bash script, or passed to the lfclient.bash script when invoking it (Ex: `./lfcclient.bash -simpleice`). The options are:

-nofire

Hides Traffic Generation (FIRE) related screens. This option is good for LANforge-ICE (only) installations.

-noice

Hides WanLink (ICE) related screens. This is good for LANforge-FIRE (only) installations.

-nocd

Hides WanLink (ICE) Collision-Domains.

-simpleice

Displays only WanLink (ICE) related screens (similar to -nofire)

-nofe

Hides File Traffic Generation (FIRE) related screens.

-novlc

Hides streaming media related screens.

-nol4

Hides Layer-4 (FTP, HTTP, VoIP) Traffic Generation (FIRE) related screens.

-nogen

Hides Generic Traffic Generation (FIRE) related screens.

-noarm

Hides Armageddon related screens.

-nospan

Hides T1 Serial Spans (FIRE) related screens.

-noppp

Hides PPP-Links (FIRE) related screens.

-nocli

Hides the Messages tab.

-notm

Hides the Test Manager tab.

-nocomma

Commas in groups of displayed numbers will not be displayed.

The LANforge-GUI should pop up shortly after this if everything worked correctly!

4. **Installing LANforge-GUI on Microsoft Windows**

The LANforge-GUI has been tested on XP, Vista and Windows 7. It should also work on most other Windows versions.

- **Download the LANforge-GUI installer** to your desktop. See [Download LANforge Software](#) above.
- **Execute the LANforge-GUI installer**
This will create desktop and run-menu shortcuts and provide the ability to configure the features displayed by the GUI.
- **Start the LANforge-GUI** by double-clicking the LANforge-GUI (anvil) desktop icon. **NOTE:** Windows Vista users must run the LANforge-GUI as administrator to function properly. The shortcut properties should be modified to run as administrator: right-click on the shortcut icon, select Properties and click the Advanced button. Select 'Run as administrator' then click OK on both the Advanced Properties and LANforge-GUI Properties windows. After double-clicking the LANforge-GUI (anvil) desktop icon, click 'Continue' in the User Account Control popup.
- **Click through End User License Agreements** for LANforge-Server and LANforge-GUI by clicking 'OK'.
- **Optional Package: cygwin X-windows**
If you are managing Linux data generators with a Windows GUI, you must have an X-windows server installed on your system in order for the 'Sniff Packets' option on the **Port Mgr** tab to work. Cygwin X-windows is a free implementation that has been tested with LANforge and [Wireshark](#).

NOTE: Cygwin versions after 1.17 require using the `-listen tcp` option.

See a detailed example here: [Display Wireshark Using Cygwin](#)

The install instructions for cygwin are here: <http://x.cygwin.com/docs/ug/cygwin-x-ug.html>. When configuring which packages to install, choose the xorg-x11-base

package (at a minimum).

When done installing, double-click the Cygwin icon that was created on your desktop. In the console that pops up, type:

```
Cygwin versions before 1.17 $ startx
```

```
Cygwin versions after 1.17 $ startxwin -- -listen tcp
```

Then type:

```
$ xhost +
```

NOTE: That allows any system to connect to yours with the X-windows protocol. You could also type: xhost [ip-addr-of-mgt-dev-of-lanforge-box(es)]

Then click the 'Sniff Packets' button on the **Port Mgr** tab of the LANforge-GUI. The DISPLAY variable should be IP-of-GUI-machine:0.0 (It should default to the right value in most cases.) If all is working, the Wireshark packet sniffer should pop up within a few seconds.

5. Installing on Other Java-Enabled Platforms

Generally, you will need to obtain a Java run-time environment (JRE), version 1.6 (aka Java 6) or greater (Older versions might work but are not officially supported.)

- **Download the 'NO JRE' LANforge-GUI distribution** to the \$HOME/lanforge directory. See [Download LANforge Software](#) above.

NOTE: For CD installation, use this procedure as root:

```
# mount /mnt/cdrom (This step may not be necessary)
# cp /mnt/cdrom/LANforgeGUI_*_NO_JRE.zip $HOME/lanforge
```

- **Unzip the LANforge-GUI** as user lanforge:

```
$ cd $HOME/lanforge
$ unzip LANforgeGUI_*_NO_JRE.zip
```

- Set (or unset) your CLASSPATH, etc., as per the JRE installation instructions, and add all of the *.jar files from the LANforgeGUI directory to your CLASSPATH.

For example:

```
$ CLASSPATH="./lfcclient.jar:./gnujaxp.jar:./jfreechart-1.0.13-
experimental.jar:./junit.jar"
$ CLASSPATH = "$CLASSPATH:./iText-2.1.5.jar:./jfreechart-
1.0.13.jar:./jcommon-1.0.16.jar"
$ CLASSPATH = "$CLASSPATH:./jfreechart-1.0.13-
swt.jar:./swtgraphics2d.jar:/"
$ export CLASSPATH
```

- Start the LANforge-GUI with a command similar to:

```
$ java -cp $CLASSPATH candela.lanforge.lfclient
```

6. Upgrading LANforge-GUI on Linux

To upgrade your LANforge-GUI from an existing Linux installation, follow these instructions:

- **Download the new LANforge-GUI distribution** to the `$HOME/lanforge` directory. See [Download LANforge Software](#) above.
NOTE: For CD installation, use this procedure as root:

```
# mount /mnt/cdrom (This step may not be necessary)
# cp /mnt/cdrom/LANforgeGUI_*_Linux.tar.bz2 $HOME/lanforge
```
- **Remove the previous installation** as user lanforge:

```
$ cd $HOME/lanforge
$ rm -rf LANforgeGUI_X.X.X
```

 (Where X.X.X is the release number of the version you are removing)
- **Remove the symbolic link:** (if upgrading from a release prior to 5.0.9)

```
$ rm -rf LANforgeGUI
```
- **Remove Desktop Icons:** (if upgrading from a release prior to 5.0.9)

```
$ rm -rf Desktop/LANforge*.desktop
```
- **Extract the LANforge-GUI distribution** as lanforge. For example:

```
$ cd $HOME/lanforge
$ tar -xvjf LANforgeGUI_X.X.X_Linux.tar.bz2
```

 (Uncompresses the distribution)
- **Install the LANforge-GUI Desktop icons** as root (release 5.0.9 and later). For example:

```
# cd $HOME/lanforge/LANforgeGUI_X.X.X
```

 (Where X.X.X is the release number of the GUI)

```
# ./lfgui_install.bash
```
- **Start the new LANforge-GUI:**

```
$ cd $HOME/lanforge/LANforgeGUI_X.X.X
$ ./lfclient.bash
```

 (Starts the GUI)
- **Click through End User License Agreements** for LANforge-Server and LANforge-GUI by clicking 'OK'.

7. Upgrading LANforge-GUI on Microsoft Windows

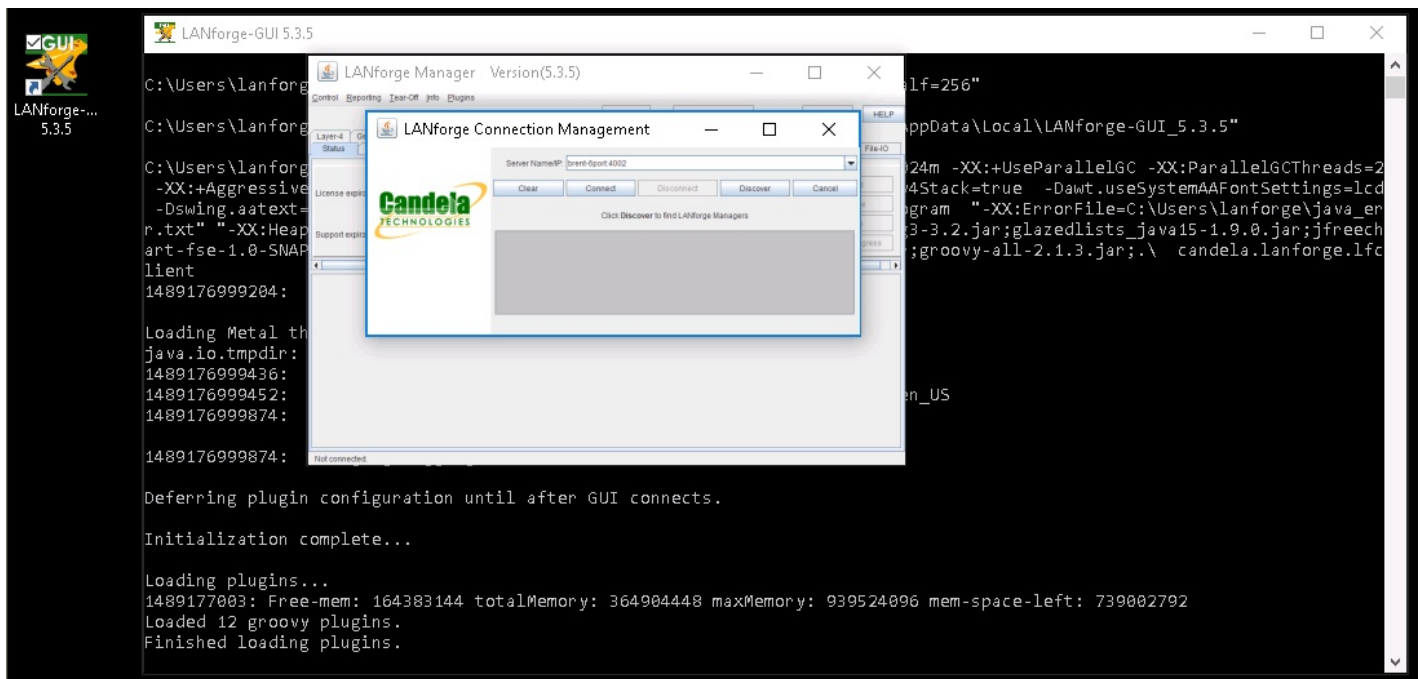
To upgrade your LANforge-GUI from an existing Windows installation, follow these instructions:

- **Download the new LANforge-GUI installer** to your desktop. See [Download LANforge Software](#) above.
- **Uninstall the previous LANforge-GUI:**

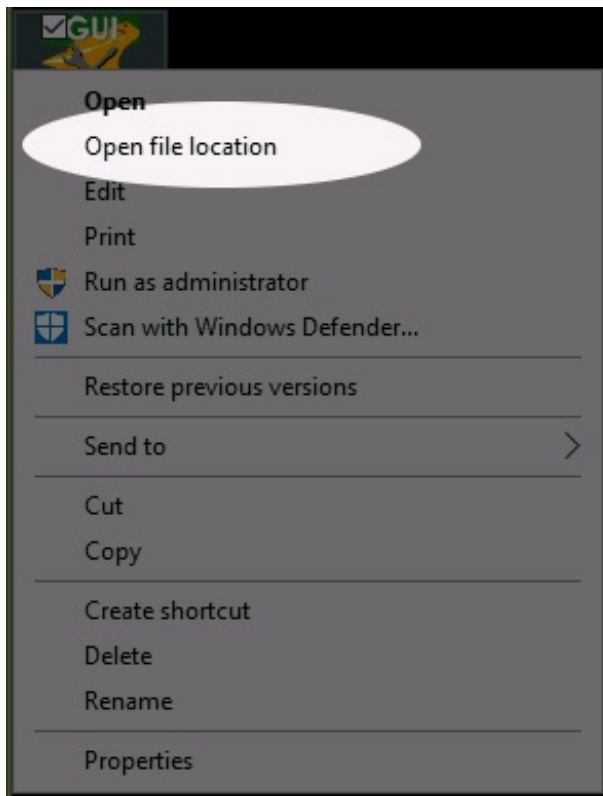
- From the Start Menu, select Control Panel and 'Add or Remove Programs' (Vista: click the 'Uninstall a program' link).
 - Select the current version of the LANforge-GUI then click the 'Remove' button (Vista: click the 'Uninstall/Change' button on the top panel then click 'Continue' in the pop-up window).
- **Install the new LANforge-GUI:**
 - Double-click the LANforge-GUI-X.X.X-Installer shortcut on your desktop (where X.X.X is the release number of the version you are installing). **NOTE:** Windows Vista users must select 'Allow' in the User Account Control popup.
 - Click 'I Agree' to the GNU General Public License, click through the setup options, and click 'Install.'
 - Select your desired configuration: LANforge-FIRE, LANforge-ICE, or Both, then click through to 'OK.'
 - **Start the LANforge-GUI** by double-clicking the LANforge-GUI (anvil) desktop icon. **NOTE:** Windows Vista users must run the LANforge-GUI as administrator to function properly. The shortcut properties should be modified to run as administrator: right-click on the shortcut icon, select Properties and click the Advanced button. Select 'Run as administrator' then click OK on both the Advanced Properties and LANforge-GUI Properties windows. After double-clicking the LANforge-GUI (anvil) desktop icon, click 'Continue' in the User Account Control popup.
 - **Click through End User License Agreements** for LANforge-Server and LANforge-GUI by clicking 'OK'.

8. **Fixing Windows HiDPI Scaling**

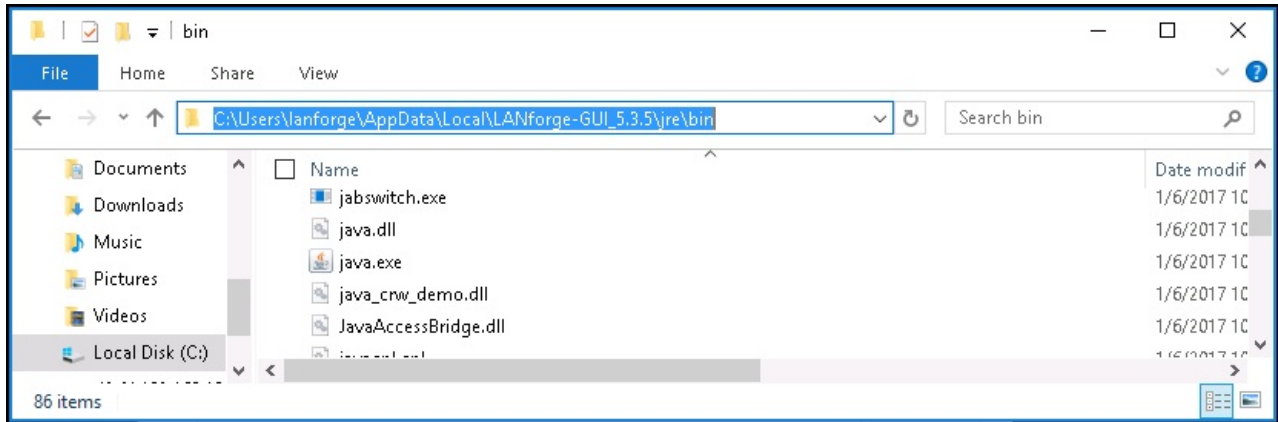
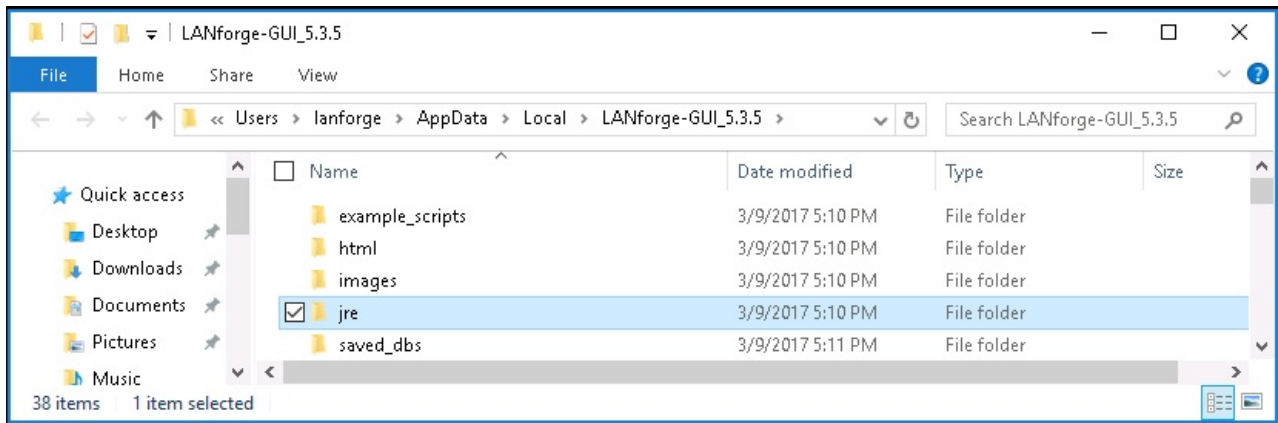
Windows 8.1-10 introduce display scaling for high-DPI screens that can squeeze your Java GUI into the size of a postage stamp on machines like the Surface Pro. Follow these steps to disable that feature for the LANforge GUI. Close the LANforge GUI if you see this happen:



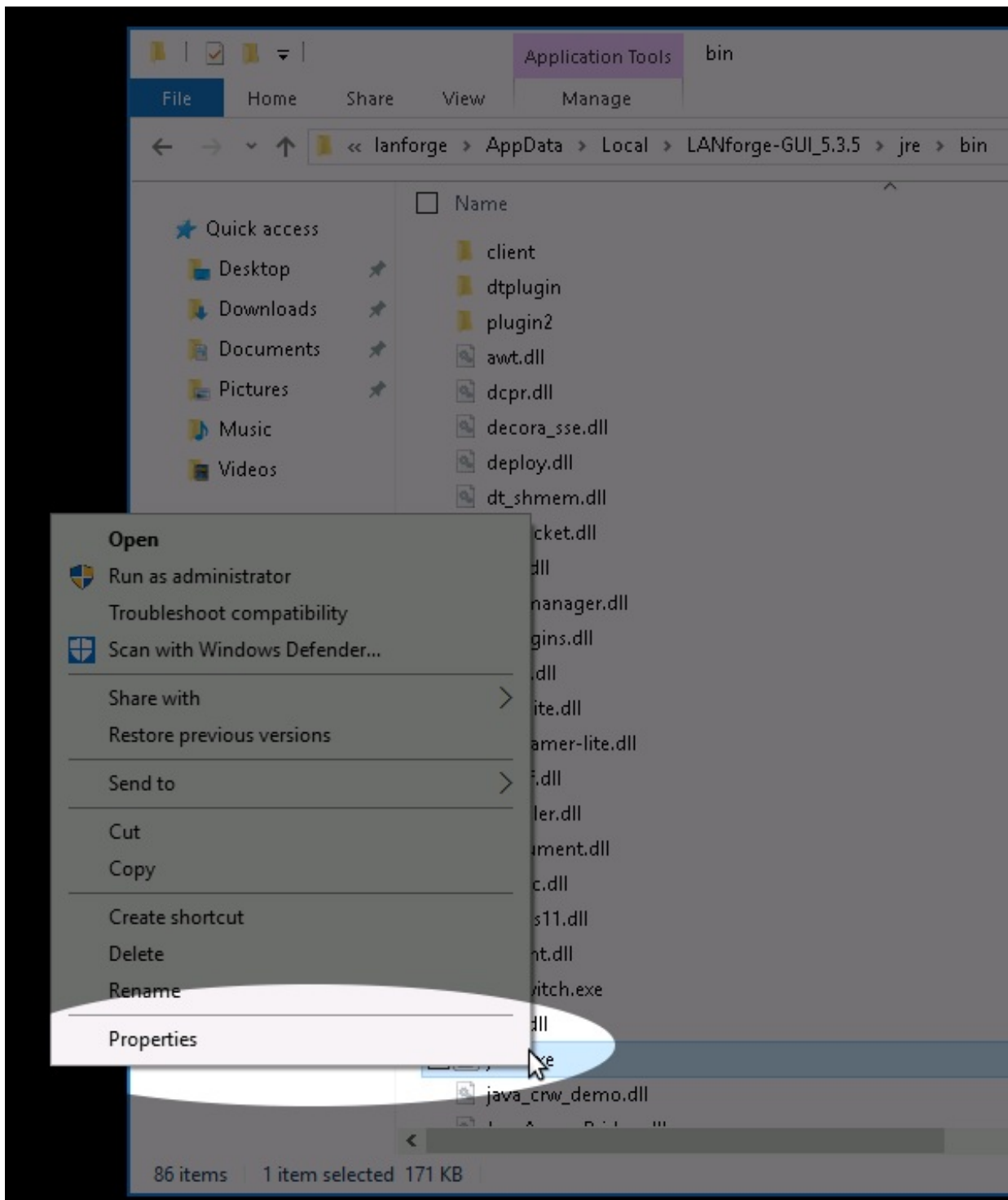
1. Right-click on your LANforge GUI desktop icon and click **Open file location**



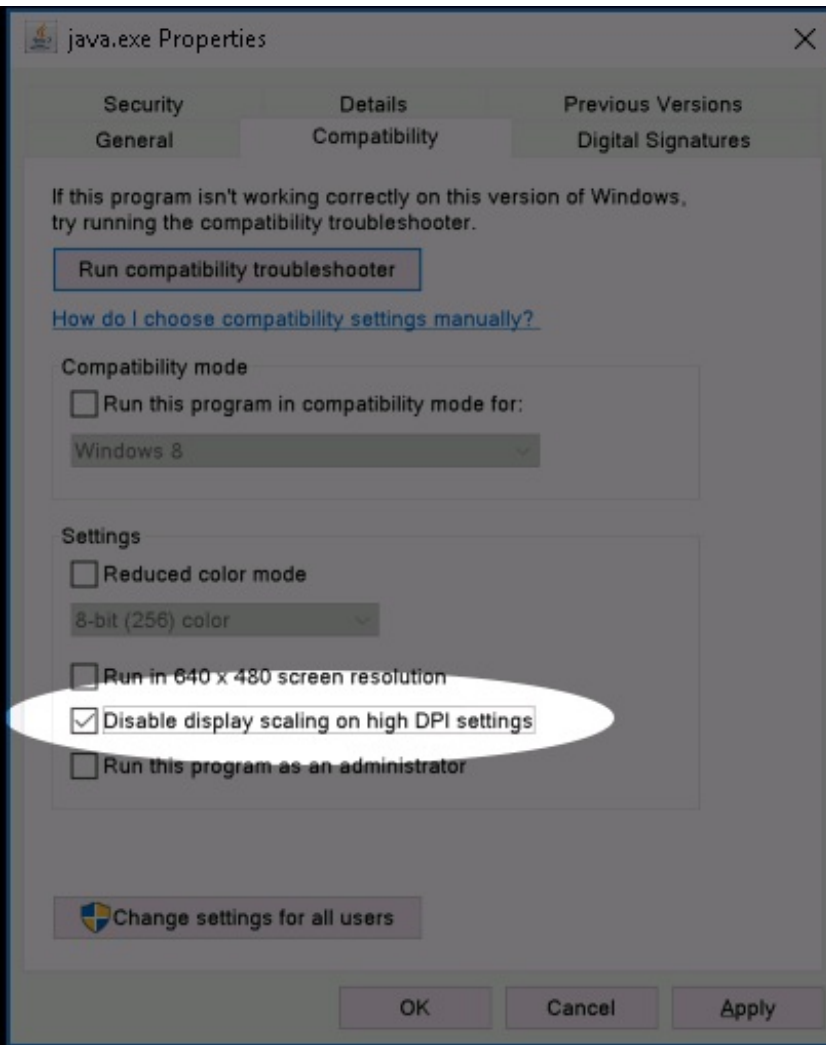
2. You are going to navigate into the `jre/bin` directory and look for the `java.exe` program.



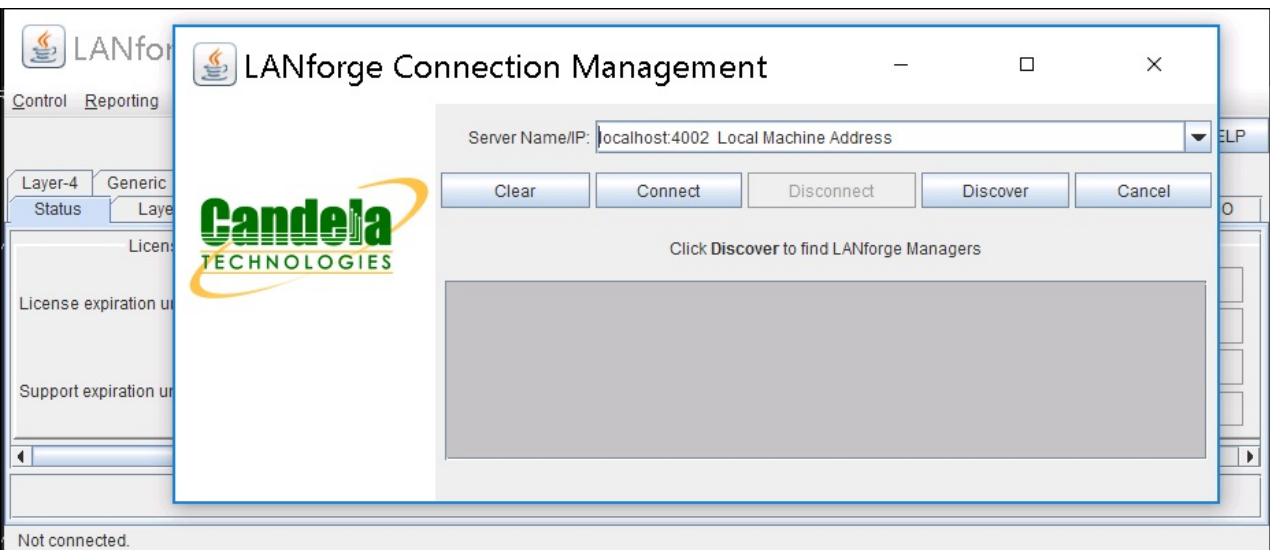
3. Click on **Properties**



4. Check **Disabled display scaling on high DPI settings**



5. Click **OK** and close the Explorer windows.
6. You can now re-start the LANforge GUI using the desktop icon. The text in the title-bar will be strangely large, but the text inside the Java application should appear normal.



Other HiDPI References

There is another method of doing this using the Windows *Run Programs* troubleshooter. This takes about 25 steps to do about the same thing.

There is a `java.exe` option `-Dsun.java2d.dpiaware=false` that works with [some combinations of windows 7, 8 and versions of Java](#). This technique is supposed to disable the Swing library's DPI detection and let Windows do the job. This does not appear to work in Windows 10.

9. Building the LANforge-GUI on Linux

You can build and customize the LANforge-GUI by downloading and the source code and building it on your workstation. (See the **Optional Packages** section of the [Downloads page](#).) This example will start with downloading the `lfgui-src-5.3.6.tar.gz` file to your `~/Downloads` folder, and building in `/var/tmp`.

These instructions apply to releases 5.3.6 and newer.

1. Create a `~/build` directory:

```
$ mkdir ~/build
```

2. Expand the archive and run the environment setup script `gui_build_env.sh`. That script will download any necessary packages and make symlinks as necessary. Feel free to edit that script, dependency packages can change over time. The build is going to want you

```
$ cd /var/tmp
  $ tar xf ~/Downloads/lfgui-src-5.3.6.tar.gz
  ...
  $ cd LANforgeGUI_5.3.6_src
  $ ./gui_build_env.sh
```

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
ant is already the newest version (1.9.6-1ubuntu1).
groovy is already the newest version (2.0.0~beta2-isreally1.8.6-4ubuntu1).
lbzip2 is already the newest version (2.5-1).
libcommons-lang3-java is already the newest version (3.4-1).
libmiglayout-java is already the newest version (4.2-1).
maven is already the newest version (3.3.9-3).
maven-ant-helper is already the newest version (7.11).
git is already the newest version (1:2.7.4-0ubuntu1.2).
openjdk-8-jdk is already the newest version (8u131-b11-2ubuntu1.16.04.3).
wget is already the newest version (1.17.1-1ubuntu1.2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ln: failed to create symbolic link '/home/jreynolds/build/jar/commons-lang3.jar'
ln: failed to create symbolic link '/home/jreynolds/build/jar/miglayout-core.jar'
ln: failed to create symbolic link '/home/jreynolds/build/jar/miglayout-swing.jar'
# ----- #
```

```
# Your environment is configured to run a LANforge GUI build.
# Your build will not be identical to the Candela linux-64 GUI
# but it will be basically similar.
# To continue, run:
#   cd client; make distrib_3pdev
# ----- #
```

3. Continue into the `client` subdirectory and run the build command:

```
$ cd client
$ make distrib_3pdev
```

There will be a lot of output, and a successful build will end with a tar command:

```
...lots of output...
tar -I lbzip2 -cf /home/lanforge/public_html/lanforge/downloads/LANforgeGUI_5.3.6_Linux64_3pdev.tbz2
```

4. The result will be in `~/public_html/lanforge/downloads/LANforgeGUI_5.3.6_Linux64_3pdev.tbz2`.
5. You can install the GUI by extracting the archive and using the `lfclient.bash` script inside:

```
$ tar xf LANforgeGUI_5.3.6_Linux64_3pdev.tbz2
$ cd LANforgeGUI_5.3.6
$ ./lfclient.bash
```

6. To clean the build environment:

- `$ rm -rf ~/build/*`
- `$ rm -f ~/public_html/lanforge/downloads/*`
- `$ cd ~/LANforgeGUI_5.3.6_src/client; make clean`

10. Troubleshooting Guide

Q. I'm using Windows Vista and LANforge-GUI won't launch from the desktop icon.

A. Windows Vista users must run the LANforge-GUI as administrator to function properly. The shortcut properties should be modified to run as administrator: right-click on the shortcut icon, select Properties and click the Advanced button. Select 'Run as administrator' then click OK on both the Advanced Properties and LANforge-GUI Properties windows.

Email Candela Technologies at: support@candelatech.com if you have any questions.