

MERCURIAL IN ECLIPSE

See also Note: SETTING UP A NEW MAVEN/MERCURIAL/ECLIPSE PROJECT FOR SOURCEFORGE EPICS v4

Pre-requisites

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0. There's a bug in MercurialEclipse, where it attempts to use ssh-askpass to do password authentication for hg commands. But ssh-askpass is not available. The workaround is to set up passwordless authentication in sourceforge. See procedure step -2. Or you may be able to install your own "ssh-askpass" command. It's in attempted use of ssh-askpass that the HGEclipse clone dialog breaks - so you may be able to download an install your own to make it work.

1. To Use Mercurial from Eclipse, you need MercurialEclipse [1]. To use MercurialEclipse, you need GPGTools (The PGP port for Mac) [3] which gives you ssh. So you need to download an install GPGTools, see step -1.

2. To get the MercurialEclipse Eclipse plug-in, you need to be a member of JavaForge. See step 0.

3. mercurialEclipse (aka HGEclipse) is broken in an important way for cloning and putting to sourceforge. It can't acquire the password for the ssh [4]. You have 2 options it seems. You can use the setup your sourceforge to use RSA passwordless authentication,

Procedure

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-2. Set up your sourceforge account for passwordless authentication

-2.1 On your mac execute ssh-keygen and follow the prompts. You want a the file ~/.ssh/id_dsa.pub when you've finished (see [5]).

```
% ssh-keygen -t dsa -C "gregorywhite@shell.sf.net"
```

-2.2 Use ssh to install your key into your sourceforge account:

```
[gregsmac:~] greg% ssh -i /Users/greg/.ssh/id_dsa.pub gregorywhite@epics-pvdata.hg.sourceforge.net
gregorywhite@epics-pvdata.hg.sourceforge.net's password:
Welcome to *.hg.sourceforge.net
This is a restricted Shell Account
You cannot execute anything here.
Connection to epics-pvdata.hg.sourceforge.net closed.
```

Or, if that doesn't work, use the manually mechanism given on your Sourceforge Account Services page.

copy and paste the contents of your ~/.ssh/id_dsa.pub file created in -2.2 above into the window provided in your account services page [6], as described in "SSH Key Posting" of [5].

-2.3 Update your ssh config file to specify that for the epics-pvdata sourceforge site at least, use passwordless authentication. That is, add the following lines to your ~/.ssh/config file:

```
Host epics-pvdata.hg.sourceforge.net
  PreferredAuthentications publickey
  IdentityFile /Users/<your computed username>/.ssh/id_dsa    <== edit
  User <your sourceforge username>                          <== edit
```

-2.5 test it

hg pull should work without a password

-1. If you don't already have a gpg executable (eg in /usr/local/bin/gpg) then go to <http://www.gpgtools.org/installer/index.html> [3] and install GPGTools. That should then result in a /usr/local/bin/gpg

0. Become a member of javaForge.

+1. Get and Install MercurialEclipse [1] into your Eclipse environment. Instructions at [2]

In Eclipse:

Help -> Install new Software

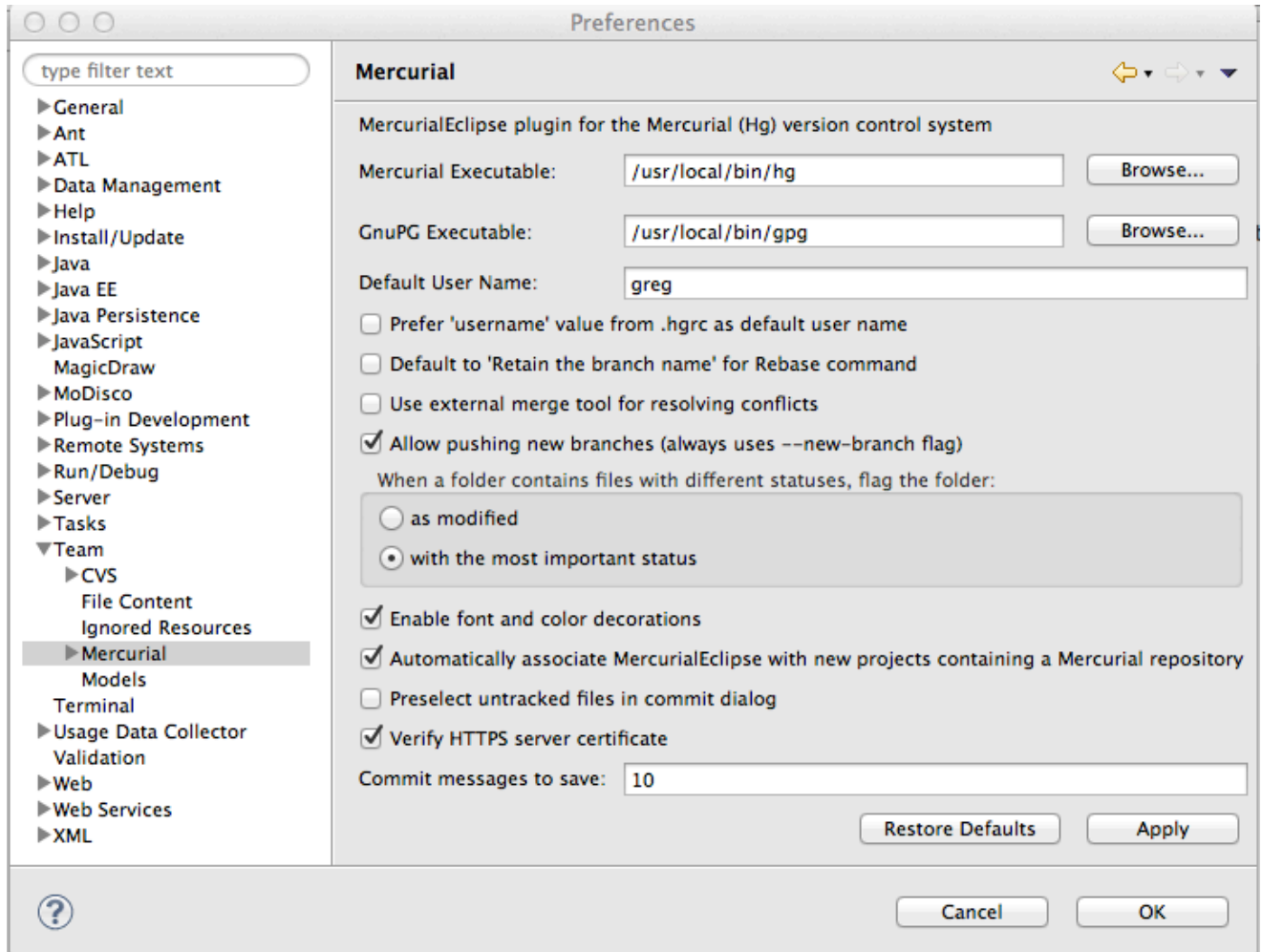
Use update site <http://cbes.javaforge.com/update>

You will have to have registered with JavaForge to use this update site

+ 2. Configure MercurialEclipse per instructions at

https://bitbucket.org/mercurialeclipse/main/wiki/Installation_and_Configuration.

See in particular entry on GnuPG Executable.



3. File -> New -> Project -> Mercurial -> Clone Existing Mercurial Repository

Clone each of the 3 repositories, pvAccessJava, pvDataJava, pvIOJava, from <ssh://epics-pvdata.hg.sourceforge.net/hgroot/epics-pvdata/>.

Example of cloning pvIOJava from the sourceforge EPICS v4 repo. Do this for all 3 Java projects of EPICS V4 you want (or 4, if you want pvServiceJava too).

Mercurial clone repository wizard

Clone repository
 ⓘ Ready to start clone

Repository location
 URL


Authentication
 Username
 Password

Clone destination
 Checkout as a project(s) in the workspace
 Parent directory
 Clone directory name

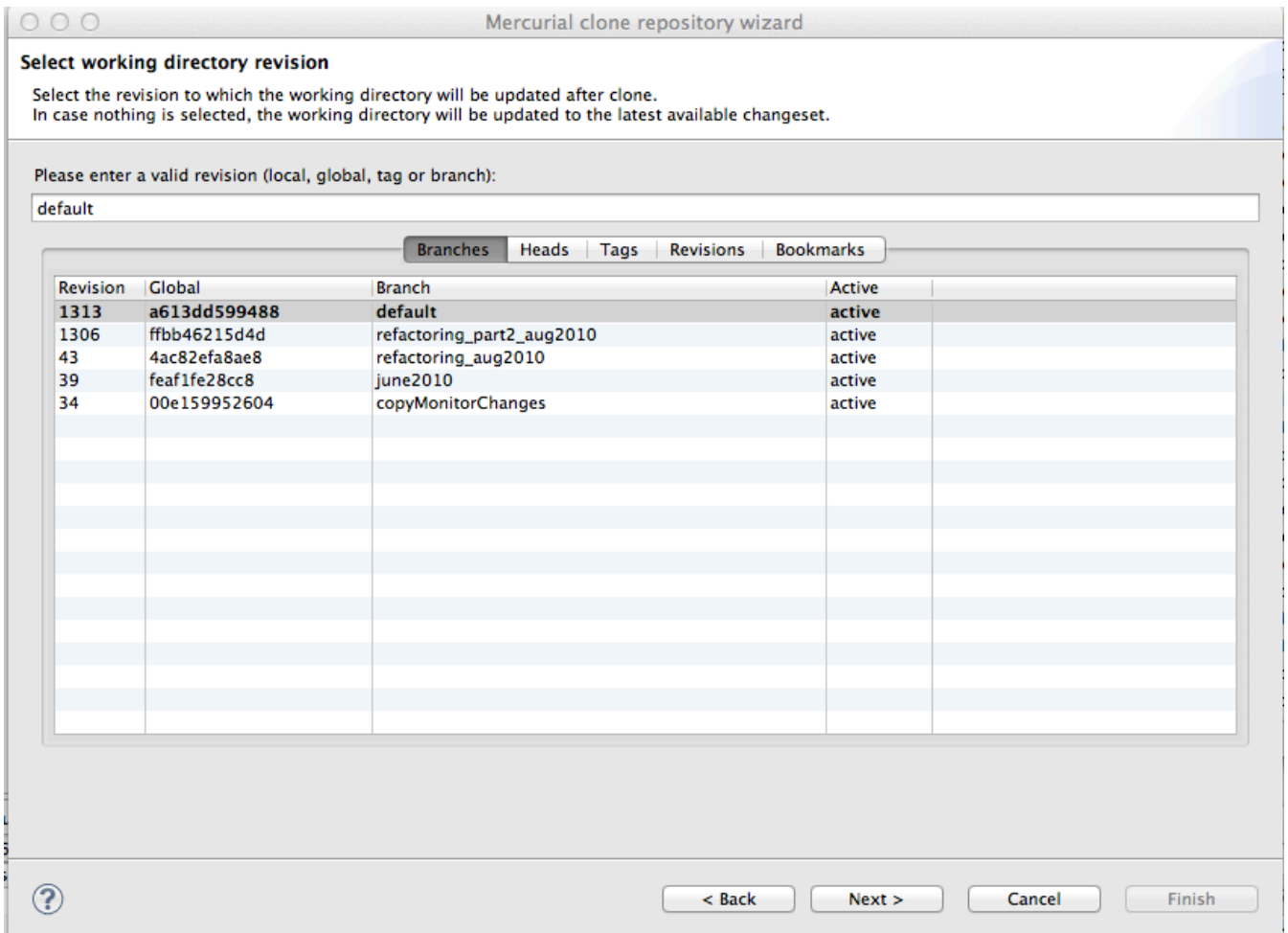
Options
 Abort clone when a timeout occurs
 Use pull protocol to copy metadata
 Use uncompressed transfer (fast over LAN)
 Last revision in the cloned repo

If you're using the password authentication mechanism (you set up GPGTools above), then you should get a prompt, like below. If you have correctly set up passwordless authentication to sourceforge, the checkout should proceed without a prompt:

SSH

 gregorywhite@epics-pvdata.hg.sourceforge.net's password:

Select the Working directory to be the default branch, if not already selected, and hit Next.



More information:

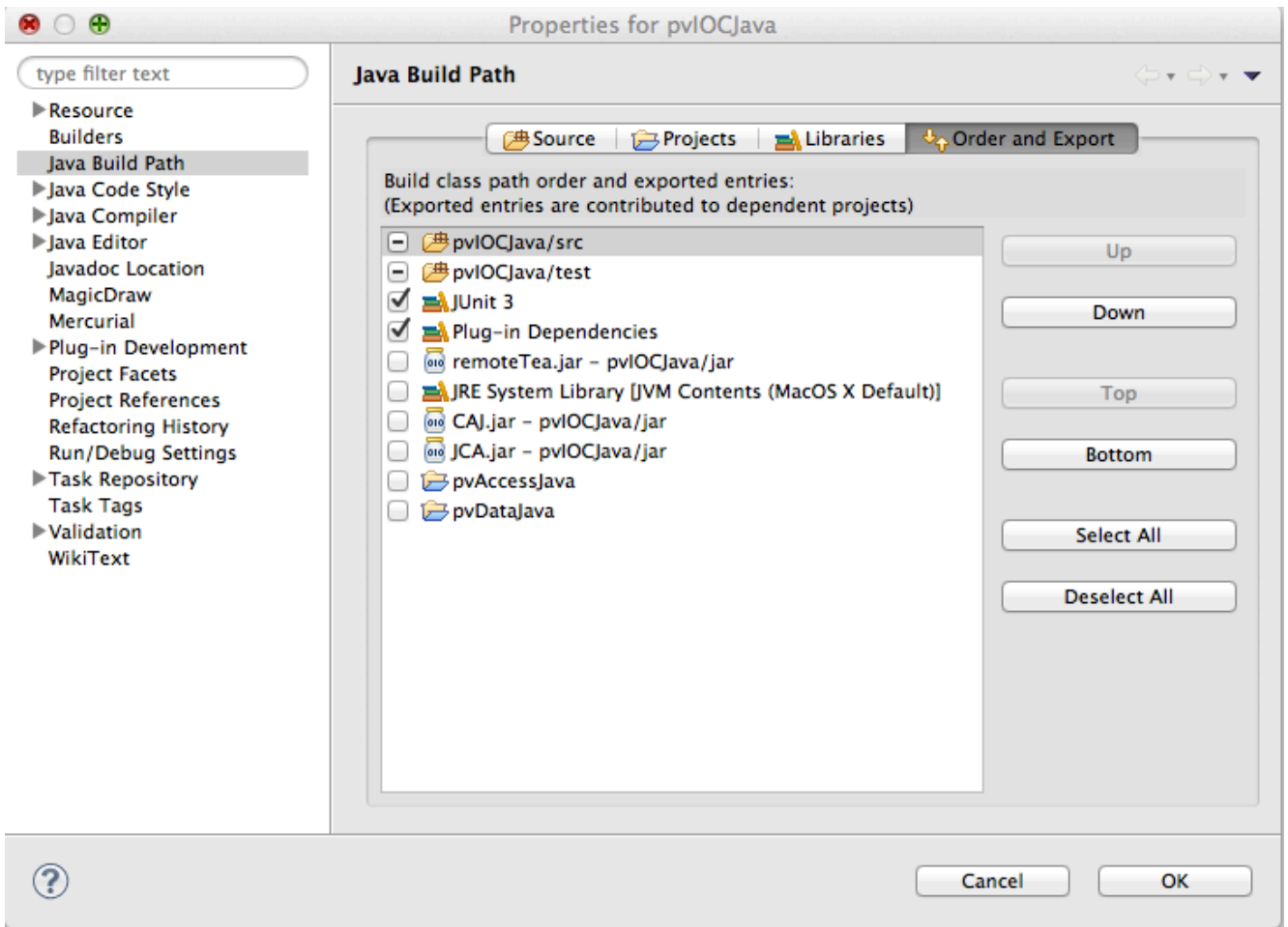
The 3 core Java "projects" of EPICS v4 are pvAccessJava, pvDataJava, pvIOJava. Support for services are in a 4th project, pvServiceJava. Each of these projects is its own HG repository, so you must clone all 3 or 4 that you want to use. The repos contain Eclipse .project files, and their dependencies (CAJ.jar, JCA.jar etc) so once they are cloned, Eclipse should build them without problems. For the reconrd, those interdependencies are as follows. If build are not successful, start with checking each project's "Java Build path" Property for these dependencies:

```

pvIOJava depends on pvAccessJava &
                    pvDataJava
                    and contains remoteTea.jar, CAJ.jar, JCA.jar
pvAccessJava depends on pvDataJava
pvDataJava  has no dependencies

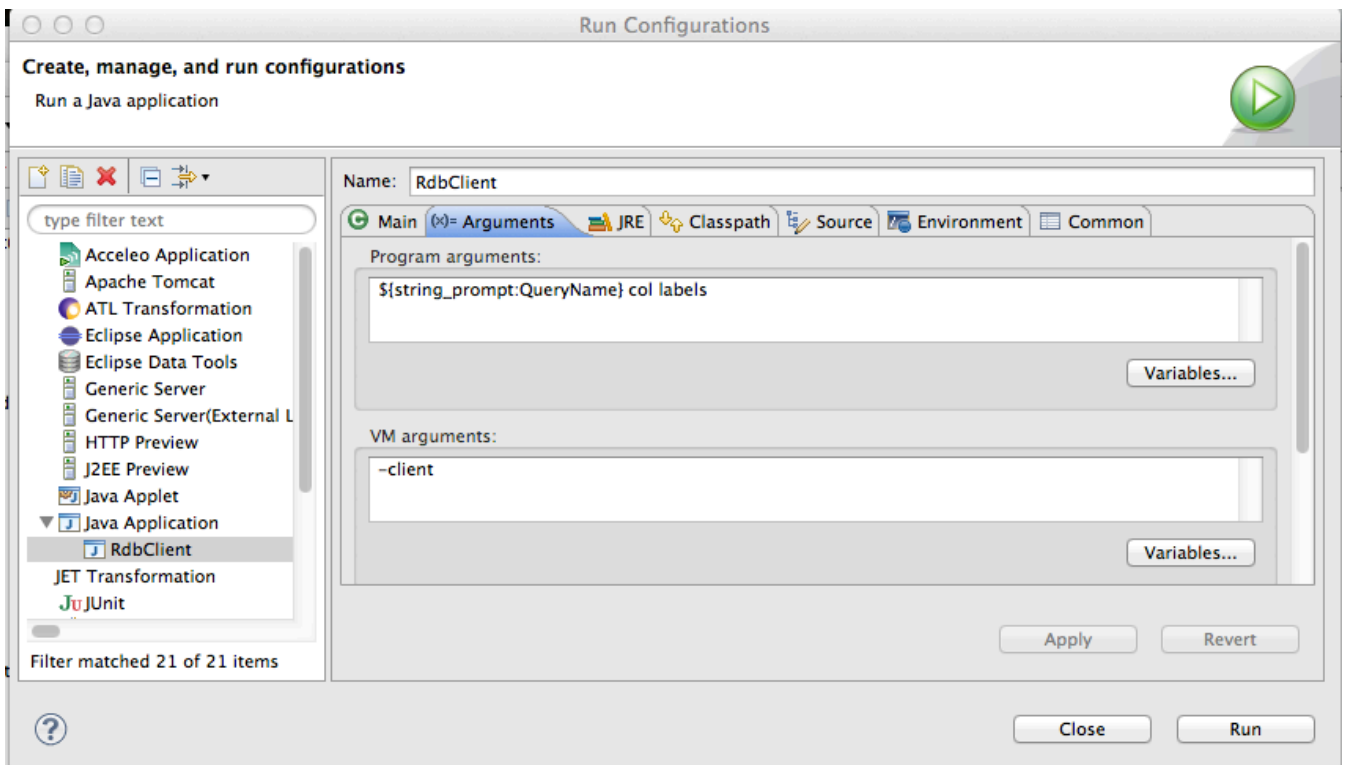
```

Example Java Build Path entry for pvIOJava, showing dependencies:



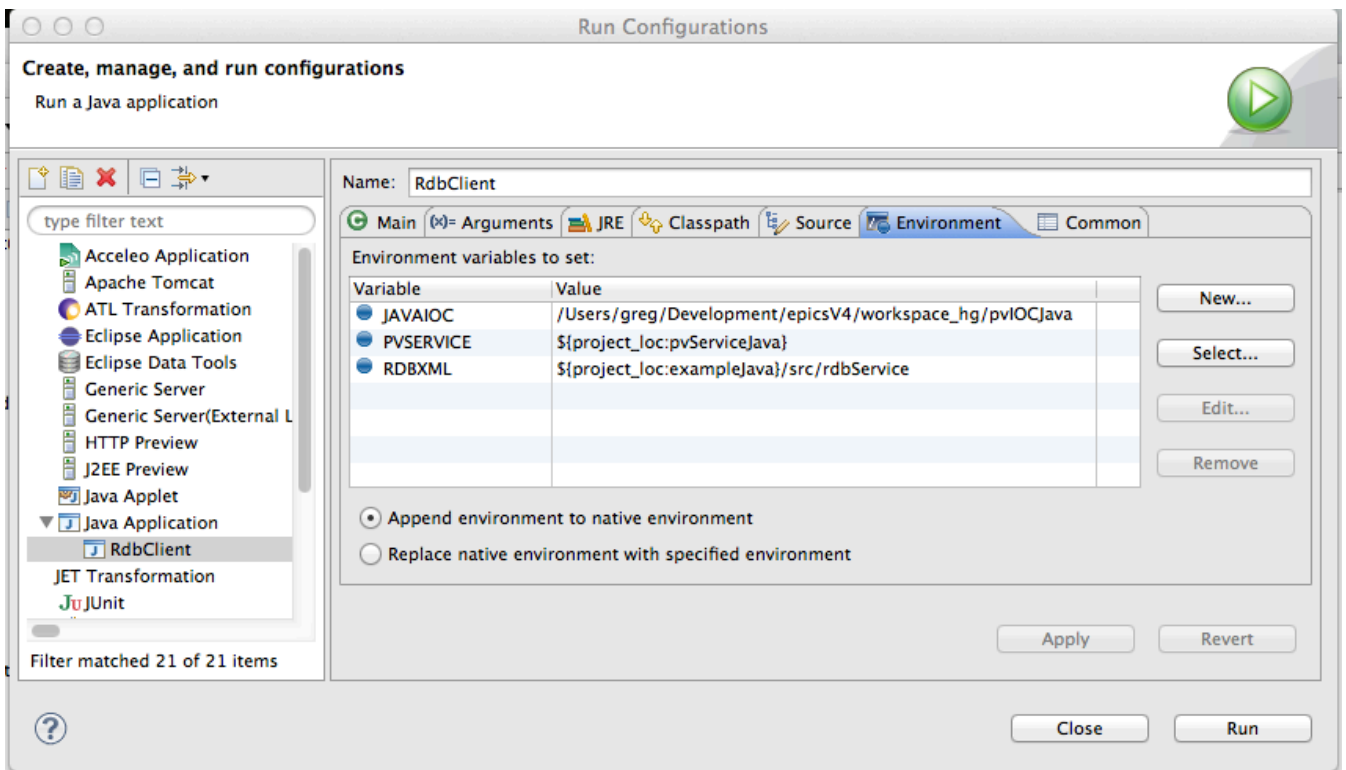
Run Configurations for EPICS V4 project exampleJava.

1. Main tab and classpath tab are as you'd expect.
2. Set the program arguments to start a dialog to get the query name (eg swissfel:alldiags) and to print the output in column format with labels.



3. Set Environment variables

You only need the 3 basic environment variables defined below (as stated in `rdb_setup.bash`). In fact, for the client side, I don't think you even need these.



- [1] <http://www.javaforge.com/project/HGE>
- [2] <http://www.javaforge.com/project/HGE#downLaod>
- [3] <http://www.gpgtools.org/>
- [4] <http://sourceforge.net/apps/trac/cs-studio/wiki/SourceRepository>

[5] <https://sourceforge.net/apps/trac/sourceforge/wiki/SSH%20keys>

[6] <https://sourceforge.net/account/services>