Contents

Daikon PhD log

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1   Setting up Daikon

To setup Daikon in ubuntu 12.10

1. Go to user home directory $ *cd*

2. Create a folder $ *mkdir daikonparent*

3. Change Directory $ *cd daikonparent*

4. To get Daikon $ *wget http* : *//pag.csail.mit.edu/daikon/download/daikon.tar.gz*

5. Untar the tar file $ *tar zxf daikon.tar.gz*

6. This creates a *daikonparent/daikon/* subdirectory.

7. To setup the classpath for Daikon

8. Go to user home directory $ *cd*

9. open .bashrc file $ *vi .bashrc*

10. Write the following lines at the end of the file

    (a) *export JAVA_HOME = "/usr/lib/jvm/java−6−openjdk−amd64"*
    (b) *export CLASSPATH = . : /home/mian/daikonparent/daikon*
    (c) *export CLASSPATH = $CLASSPATH : /home/mian/daikonparent/daikon/daikon.jar*
    (d) *export CLASSPATH = $CLASSPATH : /home/mian/daikonparent/daikon/bin/daikon.bashrc*
    (e) Write changes and quit escape : *wq*

11. Close the current terminal $ *exit*

12. Open a new terminal and all set

1.1   Common Error

If you get exception in thread main *java.lang.verifyerror stackmaptable*, it is
due to the latest verion of JDK. To get rid of this error uninstall the latest jdk
and install the 1.6 verion. Daikon is not compatible with Open-JDK 7

1.1.1 To remove versions of java

Remove all the Java related packages (Sun, Oracle, OpenJDK, IcedTea plugins, GIJ):

1. $sudo\ apt - get\ update$

2. $apt{-}cache\ search\ java \mid awk\ 'print(\$1)' \mid grep -E -e\ '(ia32{-})?(sun\mid oracle){-}$
   $java' -e\ 'openjdk{-}' -e\ 'icedtea' -e\ '(default\mid gcj){-}j(re\mid dk)' -e\ 'gcj{-}$
   $(.*){-}j(re\mid dk)' -e\ 'java - common' \mid xargs\ sudo\ apt - get\ -y\ remove$

3. $sudo\ apt - get\ -y\ autoremove$

4. Purge config files: $dpkg\ -l \mid grep\ \hat{}\ rc \mid awk\ 'print(\$2)' \mid xargs\ sudo\ apt - get\ -y\ purge$

5. Remove Java config and cache directory: $sudo\ bash\ -c\ 'ls - d\ /home/*$
   $/.java' \mid xargs\ sudo\ rm\ -rf$

6. Remove manually installed JVMs: $sudo\ rm\ -rf\ /usr/lib/jvm/*$

7. Remove Java entries, if there is still any, from the alternatives: $for\ g\ in\ ControlPanel\ java\ java_vmjavaw$
   $javaplugin.so\ orbd\ pack200\ policytool\ rmid\ rmiregistry\ servertool\ tnameserv\ unpack200\ appletviewer$
   $1.9{-}javaplugin.so;\ do\ sudo\ update{-}alternatives\ {-}{-}remove{-}all\ \$g;\ done$

8. Search for possible remaining Java directories: $sudo\ updatedb\ sudo\ locate -$
   $b\ '$
   $pack200'$

9. If the command above produces any output like $/path/to/jre1.6.0_34/bin/pack200$
   remove the directory that is parent of bin, like this: $sudo\ rm - rf\ /path/to/jre1.6.0_34.$

10. For more details, Follow the second option on the following page http://askubuntu.com/questions/84483/h
    to-completely-uninstall-java

1.1.2 Re/Install Java

1. apt-cache search openjdk

2. sudo apt-get install openjdk-6-jdk

3. $java -version

4. http://www.mkyong.com/java/how-to-install-java-jdk-on-ubuntu-linux/

1.2 Testing Daikon Setup

1. Go to StackAr folder $ cd daikonparent/daikon/examples/java-examples/StackAr/DataStructures

2. Compile all java files with -g option $ javac -g *.java

3. Go to previous folder $ cd..

4. Run the combined command or seperate one by one as in the following.

    (a) Step 1: java daikon.Chicory –daikon DataStructures.StackArTester
    (b) Step 2: java daikon.Daikon DataStructures.StackArTester
    (c) Combined: java daikon.Chicory DataStructures.StackArTester

5. The above commands will generate two files, if configured properly

    (a) StackArTester.dtrace.gz
    (b) StackArTester.inv.gz

6. Daikon is now correctly Configured.

2 Setup, Configuration and Testing of RANDOOP

1. Instruction manual for RANDOOP is available at http://randoop.googlecode.com/hg/doc/index.html

2. There are three mode of getting RANDOOP, i.e. Easiest, easy and all. We will try easy one for now which contain the RANDOOP.jar and its source code.

2.1 Getting RANDOOP

1. Go to user home directory $ cd

2. Create a directory $ mkdir randoopparent

3. Change directory $ cd randoop

4. Get Randoop easy version $ wget https://randoop.googlecode.com/files/randoop.1.3.3.zip

5. Unzip the file $ unzip randoop.1.3.3.zip

6. Setup the classpath

7. Go to user home directory $ cd

8. Open .bashrc file $ vi .bashrc

9. Write the following lines at the end

    (a) export CLASSPATH=$CLASSPATH:/home/mian/randoopparent/randoop

    (b) export CLASSPATH=$CLASSPATH:/home/mian/randoopparent/randoop/randoop.jar

    (c) save and quite the file escape :wq

    (d) Running Randoop

10. You can run randoop by the following command

11. java -ea randoop.main.Main gentests –testclass=java.util.TreeSet –timelimit=60
    The above command will start randoop for 60 seconds on the class TreeSet
    and the test cases will be saved in user home directory after execution.

3 Eclipse

3.1 Getting and Installing Eclipse

1. Go to home directory $ cd

2. $wget http://www.eclipse.org/downloads/download.php?file = /technology/epp/downloads/release/ke$
   $standard - kepler - R - linux - gtk - x86_64.tar.gz$

3. tar -zxvf eclipse*.tgz

4. If you download it through browser then go to $ cd Downloads

5. Copy the untar folder to home directory $ cp -avr eclipse ../

3.2 Common Error

Eclipse must be downloaded according to the JVM architecture. E.g if JVM is
64bit then Eclipse must be 64bit, if 32 bit then 32bit.

3.3 Get Eclipse shortcut to Ubuntu taskbar

1. First, create a .desktop file to eclipse: $gedit\ /.local/share/applications/opt_eclipse.desktop$

2. Then, paste this inside (dont forget to edit Exec and Icon values):

   [Desktop Entry]
   Type=Application
   Name=Eclipse
   Comment=Eclipse Integrated Development Environment
   Icon=/home/mian/eclipse/icon.xpm
   Exec=/home/mian/eclipse/eclipse
   Terminal=false
   Categories=Development;IDE;Java;
   StartupWMClass=Eclipse

3. To give execute permissions: $chmod + x\ /.local/share/applications/opt_eclipse.desktop$

4. Finally drop opt_eclipse.desktop to launcher nautilus $~/.local/share/applications$

5. For more details click [http://askubuntu.com/questions/80013/how-to-pin-eclipse-to-the-unity-launcher here]