

Install or Uninstall Java

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Introduction

After checking your Java Environment, downloaded and installed either an [Oracle JDK](#) or an [Open JDK](#), now it's time to pack everything together.

At this point, you have a JVM installed below your `/usr/lib/jvm` directory and you've a [jinfo](#) file tuned to your needs with a unique priority number.

Install

Now it's time to link `/etc/alternatives` with our new installed JVM.

Command Line

Usually one has to install each java commands, tools or libraries one by one with the following interactive command:

```
user@machine:~$ /usr/lib/jvm$ sudo update-alternatives --config java
There are 4 choices for the alternative java (providing /usr/bin/java).

   Selection    Path                                                    Priority   Status
   -----
   0             /usr/lib/jvm/ramdisk-java-8-oracle/jre/bin/java        1073      auto mode
   1             /usr/lib/jvm/default-java/jre/bin/java                 1073      manual mode
   2             /usr/lib/jvm/java-8-openjdk-i386/jre/bin/java           1069      manual mode
   3             /usr/lib/jvm/java-8-oracle/jre/bin/java                 1070      manual mode
   * 4           /usr/lib/jvm/ramdisk-java-8-oracle/jre/bin/java        1073      manual mode
```

If your new installed JVM doesn't appear in this list you need to add it manually with:

```
sudo update-alternatives --install "/usr/bin/java" "java" "/usr/lib/jvm/default-java/jre/bin/java" 1073;
```

Check if your added JVM java command has been processed by running:

```
user@machine:~$ update-alternatives --list java
/usr/lib/jvm/default-java/jre/bin/java
/usr/lib/jvm/java-8-openjdk-i386/jre/bin/java
/usr/lib/jvm/java-8-oracle/jre/bin/java
/usr/lib/jvm/ramdisk-java-8-oracle/jre/bin/java
```

Scripting

Doing this task one by one is pretty tedious, we provide a shell script to facilitate the work.

The trick here is to always increment the priority number for a new installed JVM and define a unique alternative name. Here is an excerpt of the man page:

```
If the alternative name specified exists already in the alternatives system's records, the information supplied will be added as a new set of alternatives for the group. Otherwise, a new group, set to automatic mode, will be added with this information. If the group is in automatic mode, and the newly added alternatives' priority is higher than any other installed alternatives for this group, the symlinks will be updated to point to the newly added alternatives.
```

```

#/usr/lib/jvm/default-java/jre/bin
sudo update-alternatives --install /usr/bin/ControlPanel ControlPanel /usr/lib/jvm/default-java/jre/bin
/ControlPanel 1073;
sudo update-alternatives --install /usr/bin/java java /usr/lib/jvm/default-java/jre/bin/java 1073;
sudo update-alternatives --install /usr/bin/javaws javaws /usr/lib/jvm/default-java/jre/bin/javaws 1073;
sudo update-alternatives --install /usr/bin/jcontrol jcontrol /usr/lib/jvm/default-java/jre/bin/jcontrol 1073;
sudo update-alternatives --install /usr/bin/jjs jjs /usr/lib/jvm/default-java/jre/bin/jjs 1073;
sudo update-alternatives --install /usr/bin/keytool keytool /usr/lib/jvm/default-java/jre/bin/keytool 1073;
sudo update-alternatives --install /usr/bin/orbd orbd /usr/lib/jvm/default-java/jre/bin/orbd 1073;
sudo update-alternatives --install /usr/bin/pack200 pack200 /usr/lib/jvm/default-java/jre/bin/pack200 1073;
sudo update-alternatives --install /usr/bin/policytool policytool /usr/lib/jvm/default-java/jre/bin/policytool
1073;
sudo update-alternatives --install /usr/bin/rmid rmid /usr/lib/jvm/default-java/jre/bin/rmid 1073;
sudo update-alternatives --install /usr/bin/rmiregistry rmiregistry /usr/lib/jvm/default-java/jre/bin
/rmiregistry 1073;
sudo update-alternatives --install /usr/bin/servertool servertool /usr/lib/jvm/default-java/jre/bin/servertool
1073;
sudo update-alternatives --install /usr/bin/tnameserv tnameserv /usr/lib/jvm/default-java/jre/bin/tnameserv
1073;
sudo update-alternatives --install /usr/bin/unpack200 unpack200 /usr/lib/jvm/default-java/jre/bin/unpack200
1073;
#/usr/lib/jvm/default-java/jre/lib
sudo update-alternatives --install /usr/bin/jexec jexec /usr/lib/jvm/default-java/jre/lib/jexec 1073;
#/usr/lib/jvm/default-java/bin
sudo update-alternatives --install /usr/bin/appletviewer appletviewer /usr/lib/jvm/default-java/bin
/appletviewer 1073;
sudo update-alternatives --install /usr/bin/extcheck extcheck /usr/lib/jvm/default-java/bin/extcheck 1073;
sudo update-alternatives --install /usr/bin/idlj idlj /usr/lib/jvm/default-java/bin/idlj 1073;
sudo update-alternatives --install /usr/bin/jar jar /usr/lib/jvm/default-java/bin/jar 1073;
sudo update-alternatives --install /usr/bin/jarsigner jarsigner /usr/lib/jvm/default-java/bin/jarsigner 1073;
sudo update-alternatives --install /usr/bin/javac javac /usr/lib/jvm/default-java/bin/javac 1073;
sudo update-alternatives --install /usr/bin/javadoc javadoc /usr/lib/jvm/default-java/bin/javadoc 1073;
sudo update-alternatives --install /usr/bin/javafxpackager javafxpackager /usr/lib/jvm/default-java/bin
/javafxpackager 1073;
sudo update-alternatives --install /usr/bin/javah javah /usr/lib/jvm/default-java/bin/javah 1073;
sudo update-alternatives --install /usr/bin/javap javap /usr/lib/jvm/default-java/bin/javap 1073;
sudo update-alternatives --install /usr/bin/javapackager javapackager /usr/lib/jvm/default-java/bin
/javapackager 1073;
sudo update-alternatives --install /usr/bin/java-rmi.cgi java-rmi.cgi /usr/lib/jvm/default-java/bin/java-rmi.
cgi 1073;
sudo update-alternatives --install /usr/bin/jcmd jcmd /usr/lib/jvm/default-java/bin/jcmd 1073;
sudo update-alternatives --install /usr/bin/jconsole jconsole /usr/lib/jvm/default-java/bin/jconsole 1073;
sudo update-alternatives --install /usr/bin/jdb jdb /usr/lib/jvm/default-java/bin/jdb 1073;
sudo update-alternatives --install /usr/bin/jdeps jdeps /usr/lib/jvm/default-java/bin/jdeps 1073;
sudo update-alternatives --install /usr/bin/jhat jhat /usr/lib/jvm/default-java/bin/jhat 1073;
sudo update-alternatives --install /usr/bin/jinfo jinfo /usr/lib/jvm/default-java/bin/jinfo 1073;
sudo update-alternatives --install /usr/bin/jmap jmap /usr/lib/jvm/default-java/bin/jmap 1073;
sudo update-alternatives --install /usr/bin/jmc jmc /usr/lib/jvm/default-java/bin/jmc 1073;
sudo update-alternatives --install /usr/bin/jps jps /usr/lib/jvm/default-java/bin/jps 1073;
sudo update-alternatives --install /usr/bin/jrunscript jrunscript /usr/lib/jvm/default-java/bin/jrunscript 1073;
sudo update-alternatives --install /usr/bin/jsadebugd jsadebugd /usr/lib/jvm/default-java/bin/jsadebugd 1073;
sudo update-alternatives --install /usr/bin/jstack jstack /usr/lib/jvm/default-java/bin/jstack 1073;
sudo update-alternatives --install /usr/bin/jstat jstat /usr/lib/jvm/default-java/bin/jstat 1073;
sudo update-alternatives --install /usr/bin/jstatd jstatd /usr/lib/jvm/default-java/bin/jstatd 1073;
sudo update-alternatives --install /usr/bin/jvisualvm jvisualvm /usr/lib/jvm/default-java/bin/jvisualvm 1073;
sudo update-alternatives --install /usr/bin/native2ascii native2ascii /usr/lib/jvm/default-java/bin
/native2ascii 1073;
sudo update-alternatives --install /usr/bin/rmic rmic /usr/lib/jvm/default-java/bin/rmic 1073;
sudo update-alternatives --install /usr/bin/schemagen schemagen /usr/lib/jvm/default-java/bin/schemagen 1073;
sudo update-alternatives --install /usr/bin/serialver serialver /usr/lib/jvm/default-java/bin/serialver 1073;
sudo update-alternatives --install /usr/bin/wsgen wsgen /usr/lib/jvm/default-java/bin/wsgen 1073;
sudo update-alternatives --install /usr/bin/wsimport wsimport /usr/lib/jvm/default-java/bin/wsimport 1073;
sudo update-alternatives --install /usr/bin/xjc xjc /usr/lib/jvm/default-java/bin/xjc 1073;
#sudo update-alternatives --install /usr/lib/xulrunner-addons/plugins/libjavaplugin.so xulrunner-1.9-javaplugin.
so /usr/lib/jvm/default-java/jre/lib/i386/libnpjp2.so 1073;
sudo update-alternatives --install /usr/lib/firefox-addons/plugins/firefox-javaplugin.so firefox-javaplugin.so
/usr/lib/jvm/default-java/jre/lib/i386/libnpjp2.so 1073;
#sudo update-alternatives --install /usr/lib/iceape/plugins/iceape-javaplugin.so iceape-javaplugin.so /usr/lib
/jvm/default-java/jre/lib/i386/libnpjp2.so 1073;
#sudo update-alternatives --install /usr/lib/iceweasel/plugins/iceweasel-javaplugin.so iceweasel-javaplugin.so
/usr/lib/jvm/default-java/jre/lib/i386/libnpjp2.so 1073;

```

```
#sudo update-alternatives --install /usr/lib/mozilla/plugins/libjavaplugin.so mozilla-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnpp2.so 1073;
#sudo update-alternatives --install /usr/lib/midbrowser/plugins/midbrowser-javaplugin.so midbrowser-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnpp2.so 1073;
#sudo update-alternatives --install /usr/lib/xulrunner-addons/plugins/libjavaplugin.so xulrunner-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnpp2.so 1073;
```

This shell script mirror the content of the **jin**fo file described in the [Java Environment Tutorial](#).

This shell script file contains various known plugins. However at this time we only describe the Firefox Java plugin support. It is why we suggest the other plugin support as comments.

Usually we store those shell scripts under **/usr/lib/jvm/tools**. This one is called **installDefaultJavaAlternatives.sh**.

Don't forget to **chmod** your shell script.

```
user@machine:~$cd /usr/lib/jvm/tools
user@machine:/usr/lib/jvm/tools$ sudo chmod 744 installDefaultJavaAlternatives.sh
user@machine:/usr/lib/jvm/tools$ ls -al installDefaultJavaAlternatives.sh
-rwxr--r-- 1 root root 6814 Jul 12 11:53 installDefaultJavaAlternatives.sh
```

Then run it:

```
user@machine:/usr/lib/jvm/tools$ sudo ./installDefaultJavaAlternatives.sh
```

Then run

```
user@machine:/usr/lib/jvm/tools$ sudo update-java-alternatives -s default-java
```

Sometimes the previous command fails because **default-java** refers to an existing JVM:

```
user@machine:/usr/lib/jvm/tools$ sudo update-java-alternatives -s default-java
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/appletviewer for appletviewer
not registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/extcheck for extcheck not
registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/idlj for idlj not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jarsigner for jarsigner not
registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jar for jar not registered; not
setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javac for javac not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javadoc for javadoc not
registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javafxpackager for
javafxpackager not registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javah for javah not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javapackager for javapackager
not registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/javap for javap not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jcmd for jcmd not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jconsole for jconsole not
registered; not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jdb for jdb not registered; not
setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jdeps for jdeps not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jhat for jhat not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jinfo for jinfo not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jmap for jmap not registered;
not setting
update-alternatives: error: alternative /usr/lib/jvm/ramdisk-java-8-oracle/bin/jmc for jmc not registered; not
setting
...
```

In our configuration **.default-java.jinfo** refers to **.ramdisk-java-8-oracle.jinfo**:

```
user@machine:/usr/lib/jvm$ ls -al .default-java.jinfo
lrwxrwxrwx 1 root root 30 Jul 12 14:29 .default-java.jinfo -> ../ramdisk-java-8-oracle.jinfo
```

The **.default-java.jinfo** is linked to **.ramdisk-java-8-oracle.jinfo** who use **ramdisk-java-8-oracle** as its name. This the reason why the previous command failed.

```
name=ramdisk-java-8-oracle
priority=1073
section=main
```

It means that **ramdisk-java-8-oracle** should be installed through the [Update Alternatives](#) mechanism before we can set the alternatives to **default-java** or you define a **jinfo** file with a different priority number.

Then check again that everything is correct with your [Java Update Alternatives Environment](#).

Uninstall

Now it's time to unlink **/etc/alternatives** with the JVM we want to uninstall.

Command Line

Usually one has to uninstall each java commands, tools or libraries one by one with the following interactive command:

```
sudo update-alternatives --remove "java" "/usr/lib/jvm/default-java/jre/bin/java";
```

Scripting

Doing this task one by one is pretty tedious, we provide a shell script to facilitate the work.

```

#/usr/lib/jvm/default-java/jre/bin
sudo update-alternatives --remove ControlPanel /usr/lib/jvm/default-java/jre/bin/ControlPanel;
sudo update-alternatives --remove java /usr/lib/jvm/default-java/jre/bin/java;
sudo update-alternatives --remove javaws /usr/lib/jvm/default-java/jre/bin/javaws;
sudo update-alternatives --remove jcontrol /usr/lib/jvm/default-java/jre/bin/jcontrol;
sudo update-alternatives --remove jjs /usr/lib/jvm/default-java/jre/bin/jjs;
sudo update-alternatives --remove keytool /usr/lib/jvm/default-java/jre/bin/keytool;
sudo update-alternatives --remove orbd /usr/lib/jvm/default-java/jre/bin/orbd;
sudo update-alternatives --remove pack200 /usr/lib/jvm/default-java/jre/bin/pack200;
sudo update-alternatives --remove policytool /usr/lib/jvm/default-java/jre/bin/policytool;
sudo update-alternatives --remove rmid /usr/lib/jvm/default-java/jre/bin/rmid;
sudo update-alternatives --remove rmiregistry /usr/lib/jvm/default-java/jre/bin/rmiregistry;
sudo update-alternatives --remove servertool /usr/lib/jvm/default-java/jre/bin/servertool;
sudo update-alternatives --remove tnameserv /usr/lib/jvm/default-java/jre/bin/tnameserv;
sudo update-alternatives --remove unpack200 /usr/lib/jvm/default-java/jre/bin/unpack200;
#/usr/lib/jvm/default-java/jre/lib
sudo update-alternatives --remove jexec /usr/lib/jvm/default-java/jre/lib/jexec;
#/usr/lib/jvm/default-java/bin
sudo update-alternatives --remove appletviewer /usr/lib/jvm/default-java/bin/appletviewer;
sudo update-alternatives --remove extcheck /usr/lib/jvm/default-java/bin/extcheck;
sudo update-alternatives --remove idlj /usr/lib/jvm/default-java/bin/idlj;
sudo update-alternatives --remove jar /usr/lib/jvm/default-java/bin/jar;
sudo update-alternatives --remove jarsigner /usr/lib/jvm/default-java/bin/jarsigner;
sudo update-alternatives --remove javac /usr/lib/jvm/default-java/bin/javac;
sudo update-alternatives --remove javadoc /usr/lib/jvm/default-java/bin/javadoc;
sudo update-alternatives --remove javafxpackager /usr/lib/jvm/default-java/bin/javafxpackager;
sudo update-alternatives --remove javah /usr/lib/jvm/default-java/bin/javah;
sudo update-alternatives --remove javap /usr/lib/jvm/default-java/bin/javap;
sudo update-alternatives --remove javapackager /usr/lib/jvm/default-java/bin/javapackager;
sudo update-alternatives --remove java-rmi.cgi /usr/lib/jvm/default-java/bin/java-rmi.cgi;
sudo update-alternatives --remove jcmd /usr/lib/jvm/default-java/bin/jcmd;
sudo update-alternatives --remove jconsole /usr/lib/jvm/default-java/bin/jconsole;
sudo update-alternatives --remove jdb /usr/lib/jvm/default-java/bin/jdb;
sudo update-alternatives --remove jdeps /usr/lib/jvm/default-java/bin/jdeps;
sudo update-alternatives --remove jhat /usr/lib/jvm/default-java/bin/jhat;
sudo update-alternatives --remove jinfo /usr/lib/jvm/default-java/bin/jinfo;
sudo update-alternatives --remove jmap /usr/lib/jvm/default-java/bin/jmap;
sudo update-alternatives --remove jmc /usr/lib/jvm/default-java/bin/jmc;
sudo update-alternatives --remove jps /usr/lib/jvm/default-java/bin/jps;
sudo update-alternatives --remove jrunscript /usr/lib/jvm/default-java/bin/jrunscript;
sudo update-alternatives --remove jsadebugd /usr/lib/jvm/default-java/bin/jsadebugd;
sudo update-alternatives --remove jstack /usr/lib/jvm/default-java/bin/jstack;
sudo update-alternatives --remove jstat /usr/lib/jvm/default-java/bin/jstat;
sudo update-alternatives --remove jstatd /usr/lib/jvm/default-java/bin/jstatd;
sudo update-alternatives --remove jvisualvm /usr/lib/jvm/default-java/bin/jvisualvm;
sudo update-alternatives --remove native2ascii /usr/lib/jvm/default-java/bin/native2ascii;
sudo update-alternatives --remove rmic /usr/lib/jvm/default-java/bin/rmic;
sudo update-alternatives --remove schemagen /usr/lib/jvm/default-java/bin/schemagen;
sudo update-alternatives --remove serialver /usr/lib/jvm/default-java/bin/serialver;
sudo update-alternatives --remove wsgen /usr/lib/jvm/default-java/bin/wsgen;
sudo update-alternatives --remove wsimport /usr/lib/jvm/default-java/bin/wsimport;
sudo update-alternatives --remove xjc /usr/lib/jvm/default-java/bin/xjc;
#sudo update-alternatives --remove xulrunner-1.9-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
sudo update-alternatives --remove firefox-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
#sudo update-alternatives --remove iceape-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
#sudo update-alternatives --remove iceweasel-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
#sudo update-alternatives --remove mozilla-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
#sudo update-alternatives --remove midbrowser-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;
#sudo update-alternatives --remove xulrunner-javaplugin.so /usr/lib/jvm/default-java/jre/lib/i386/libnppj2.so;

```

This shell script mirror the content of the **jinfo** file described in the [Java Environment Tutorial](#).

This shell script file contains various known plugins. However at this time we only describe the Firefox Java plugin support. It is why we suggest the other plugin support as comments.

Usually we store those shell scripts under **/usr/lib/jvm/tools**. This one is called **removeDefaultJavaAlternatives.sh**.

Don't forget to **chmod** your shell script.

```
user@machine:~$cd /usr/lib/jvm/tools
user@machine:/usr/lib/jvm/tools$ sudo chmod 744 removeDefaultJavaAlternatives.sh
user@machine:/usr/lib/jvm/tools$ ls -al removeDefaultJavaAlternatives.sh
-rwxr--r-- 1 root root 6814 Jul 12 11:53 removeDefaultJavaAlternatives.sh
```

Then run it:

```
user@machine:/usr/lib/jvm/tools$ sudo ./removeDefaultJavaAlternatives.sh
```

As you've uninstalled a JVM, it depends whether or not you have other installed JVMs. In case you have more than one, the **update-alternatives** will update your configuration with the highest priority JVM.

Then check again that everything is correct with your [Java Update Alternatives Environment](#).