JMV Installation Guide

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JMV WWW home page: `http://www.ks.uiuc.edu/Development/jmv/`

Description

This document describes how to install one of the precompiled releases of JMV and contains instructions on how to compile JMV from the source code release.

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[1]http://www.ks.uiuc.edu/

Contents

Chapter 1

Introduction

This manual, along with the Users Guide and Programmers Guide, documents the use of JMV.

This Installation Guide details how to compile and install JMV. You have the option of simply installing a precompiled version of JMV provided in the standard distribution, or the option of recompiling JMV with a different set of features and options. Depending on the method preferred, different chapters of this Guide will be relevant. This manual is organized into the following chapters following this introduction:

- **Java and the Java Plug-In**
  To run JMV, you need to download the Java Runtime Environment from
  `http://www.java.sun.com/j2se/`

- **Java3D**
  Java3D is Sun's 3D drawing API. It is also necessary to run JMV.

- **JMV code**
  Once you have Java and Java3D installed on your system, you can use JMV simply by visiting a web page that uses the JMV applet. Or, you can download the JMV applet code from `http://www.ks.uiuc.edu/Development/Download/download.cgi?PackageName=JMV`. From there, you can also download the source code and compile it on your own.

1.1 Credits and Program Reference

The authors request that any published work or images created using JMV include the following reference:

Bach, M., Brunner, R., Stone, J., Vandivort, K. "JMV"

JMV has been developed by the Theoretical Biophysics group at the University of Illinois and the Beckman Institute. The main authors of JMV are M. Bach, R. Brunner, J. Stone, K. Vandivort. This work is supported by grants from the National Institutes of Health (grant number PHS 5 P41 RR05969-04), the National Science Foundation (grant number BIR-9423827 EQ), and the Roy J. Carver Charitable Trust.

1.2 Copyright and Disclaimer

Chapter 2

Installing Java

JMV requires the Java Plug-In, which is included in the Java Runtime Environment, version 1.3 or higher. Visit `http://java.sun.com/j2se/` to get the latest version of the JRE. If you do not have the Java Plug-In installed when you try to run JMV from a browser, it may prompt you to download it, or bring you to the download page. You must have administrative privileges on your machine when installing the JRE in order for the Java Plug In to be recognized by browsers.

These instructions are for downloading JRE version 1.4, which contains the Java Plug-In, version 1.4. We will try to keep these instructions up to date with the most recent releases of the JRE, but be aware that more recent versions may be available.

2.1 Solaris

Go to `http://java.sun.com/j2se/1.4/download.html`.
Under the "Download J2SE v 1.4.0_01" header, select the "DOWNLOAD" link from the "JRE" column in the "Solaris" row that corresponds to your system, and continue the download process.

See `http://java.sun.com/j2se/1.4/jre/install-solaris.html` for more information on installation of JRE on Solaris.

2.2 Windows

Go to `http://java.sun.com/j2se/1.4/download.html`. Under the "Download J2SE v 1.4.0_01" header, select the "DOWNLOAD" link from the "JRE" column in one of the "Windows" rows ("Windows (US Only)" or "Windows (all languages including English)"), and continue the download process.

See `http://java.sun.com/j2se/1.4/jre/install-windows.html` for more information on installation of JRE on Windows.

2.3 Linux

Go to `http://java.sun.com/j2se/1.4/download.html`. Under the "Download J2SE v 1.4.0_01" header, select the "DOWNLOAD" link from the "JRE" column in the one of the Linux rows ("Linux RedHat shell script" or "Linux GNUZIP tar shell script"), and continue the download process.

See `http://java.sun.com/j2se/1.4/jre/install-linux.html` for more information on installation of JRE on Solaris.

2.3.1 Installing the Java Plug-In on Linux

If you have installed Java, and are using Netscape, and when running JMV you get an error saying the Java Plug-In could not be found, try the following steps:

1. Uninstall previous installation of the Java Plug-in, if applicable.
   ```
   rm -fr $HOME/.netscape/java
   rm $HOME/.netscape/plugins/javaplugin.so
   ```

2. Set the NPX_PLUGIN_PATH environment variable:
   `export NPX_PLUGIN_PATH=< jre >/plugin/i386/ns4`
   Here, $< jre >$ is the path to the top-level directory of your Java 2 Runtime Environment installation.

3. For Netscape 6 browsers:
   Create a symbolic link in the Netscape plugins directory. If (and only if) you are using Netscape 6, you will need to create a symbolic link in the Netscape plugins directory to the path of the libjavaplugin_oji.so file. This file is located within the Java 2 SDK at: jre/plugin/i386/ns600/libjavaplugin_oji.so.

   ```
   cd $NETSCAPE6/plugins
   ln -s $JRE/plugin/i386/ns600/libjavaplugin_oji.so .
   ```

4. Start (or restart) your Netscape browser.
   Start your Netscape browser. If your browser is already running, close it and restart it.

5. Close and restart your Netscape browser again.
   Restarting the browser a second time is necessary because of bug 4358142.

Chapter 3

Installing Java3D

To run JMV, you also need Java3D, Sun's API for 3D drawing.

3.1 Solaris and Windows

Visit `http://java.sun.com/products/java-media/3D/download.html` to download Java3D. Select the platform for which you wish to download Java3D, and continue.

See `http://java.sun.com/products/java-media/3D/java3d-install.html` for more information on the requirements and installation of Java3D.

3.2 Linux

Visit Blackdown.org's Java3D for Linux at
`http://www.blackdown.org/java-linux/jdk1.2-status/java-3d-status.html`.
Download Java3D from one of the mirror sites and follow the given instructions to install.

Chapter 4

JMV distribution files

After downloading Java and Java3D, there is nothing else you need to install to view JMV in webpages. All you have to do is visit a page that uses JMV, and it should be enabled. If you wish, you may download the JMV distribution files which include jar files, sample pages, documentation, and source code. The packages available for download are:

```
Applet for Unix (jmv-<version>.applet.tar.gz):
Jar files and sample web page to sample JMV.
Packaged in a .tar.gz format for Unix and Linux.

Applet for Windows (jmv-<version>.applet.zip):
Jar files and sample web page to sample JMV.
Packaged in a .zip format for Windows.

JMV source code (jmv-<version>.src.tar.gz):
Source code for JMV, including sample molecule files, benchmarks, and more.
Packaged in a .tar.gz format for Unix and Linux. Once downloaded and
extracted, build a JMV distribution with the command
''make src-build applet-dist''
 in the main directory. This will create jmv-<version>.jar in the
applet/ directory.
```

The files can be downloaded from
`http://www.ks.uiuc.edu/Development/Download/download.cgi?PackageName=JMV`.
You need to create a username and password, which you can create when you download the files.