**Sip4J Installation Guide**

**Experimental Setup**

* MacBook Pro
* Eclipse SDK 3.7.2,
* jdk 1.7
* Antlr compiler
* TexLive 2015.

**Downloads**

1. **Download Java SE development kit (jdk 1.7)** <https://www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-javase7-521261.html>
2. **Download Eclipse indigo SDK 3.7.2 (64 bit) for MacBook.**
3. **From the Eclipse IDE, go to Help -> Install New Software -> In the available Software Window,**
4. Type url Indigo - <http://download.eclipse.org/releases/indigo> and press Enter. From the listed options, search and select following frameworks to download them.

* **Dynamic Languages Toolkit - Core Frameworks 3.0.0.**v20101211-0331-7l-2ED-z0UkhYdtV3\_LBO
* **Graphical Editing Framework GEF 3.7.2**.v20110927-2020-777D381B4Bz0755B465D34242
* **Graphical Editing Framework Zest Visualization Toolkit** 1.3.0.v20110425-2050-67A18yF6F18CBD5A7N54242

1. Now, Type ANTLR IDE - <http://antlrv3ide.sourceforge.net/updates>  on the same window and download the following ANTLR IDE.

* **ANTLR IDE v2.1.2**

1. **Download and install Texlive 2015 on your system.**

**Sip4J Installation Instructions**

1. **Download Sip4J project from** <https://github.com/Sip4J/Sip4J>. Unzip the archive.
2. Copy folder **permission-specs** and **runtime-sip4j-applications** in a **workspace folder** on your system.
3. Import **permission-specs** in the workspace as a new Plugin project.

**Eclipse IDE -> File -> Import-> permission-specs**

1. Check if the folders **src, antlr-generated and pulse** are already added as source folders by going to project **Properties -> Java Build Path -> Source ->**

Otherwise add them as source folder by selecting **Add Folders…** from the same location Or going to **Package explorer -> <folder-name> -> Build Path -> Use as Source Folder.**

1. Add all the required library and jar files (plaid-annotations. igraph etc.) from the **lib** folder in the imported project**. For which you need to go to**
2. Go to **Project properties -> Java Build Path -> Libraries tab -> add JARs..** -> Select **lib** folder and add all .jar files.
3. Go to **Project properties -> Java Build Path -> Libraries tab -> add Library -> select JRE System Library -> Installed JREs**…

and look for the default JRE otherwise search it on your system. On my system it is located at

**/Library/Java/JavaVirtualMachines/jdk 1.7.0\_51.jdk/Contents/Home and add it.**

**(**Note: If there are some errors in the source code for the JRE compatibility**.** Go to project **Properties -> Java Compiler ->** select **Enable project specific settings** and change **Compiler Compliance level to 1.7).**

1. In the pulse folder, go to **uma.SMC -> UserSelectedClassAnalysis.java and look for the method named makePdf\_CommandLine(…)** and replace expression with the path of textive on your system.

String cmd = "/usr/local/texlive/2015/bin/x86\_64-darwin/pdflatex " +folder+"/model.tex";

1. Copy files **mode.stm, model.tex, evmdd-sms, and location.sh** from the **modelchecker** folder **in the runtime-sip4j-application folder.**
2. **Now setup the project run configuration**
3. Select project folder **permission-specs** in package explorer**,** right click on the **project folder** and select **Run As -> Run Configurations ->** Selectthe symbol **+ in the opened window** on the top right corner to create a new project run configuration **🡪 Main tab -> Workspace Data ->** in the location field select path of the **runtime-sip4j-application** folder from the workspace folder.
4. A plugin child window will open with the benchmark projects in it.
5. If there are errors in the project, set the path of jdk following 5B point.
6. The folder **pulseTests** may have an error due to the plural annotations generated as an output with the Java source code, Ignore that error.
7. Now run any of the benchmark program by right clicking on its name and selecting the Sip4J option from the context menu.