

JavaMOP Tutorial

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In this tutorial, we shall use JavaMOP to specify monitor specifications and weave their implementation into the target code.

JavaMOP requires JDK, AJC and RV-Monitor.

1. JDK v.7 or higher
2. AJC v.1.8 or higher
 - Check AspectJ is installed properly: run `ajc -version` from a terminal.
 - Add `<AspectJ_HOME>/lib/aspectjrt.jar`, `<AspectJ_HOME>/lib/aspectjweaver.jar` and `<AspectJ_HOME>/lib/aspectjtools.jar` to your CLASSPATH.
3. RV-Monitor v.1.3 or higher
 - Check RV-Monitor is installed properly: run `rv-monitor -version` from a terminal.
 - Add `<RV-Monitor_HOME>/lib/rv-monitor.jar` and `<RV-Monitor_HOME>/lib/rv-monitor-rt.jar` to your CLASSPATH.

Download javamop 4.2 from <http://fsl.cs.illinois.edu/index.php/JavaMOP4>.

Add `%RV-Monitor_HOME%/lib/rv-monitor.jar;%RV-Monitor_HOME%/lib/rv-monitor-rt.jar;%RV-Monitor_HOME%\bin;` to SystemVariables.Path

Source files are available in the examples directory: `C:\javamop-4.2\javamop\examples\ERE`. If you installed JavaMOP in a different folder other than `C:\javamop-4.2`, use the appropriate path here.

Now, we specify properties in .mop file. Further, we use JavaMOP to synthesize specification as .aj files. We use AspectJ to weave them into Java code. Run the target file to see the results.

```
c:\code\aspectj\sfs>javamop SafeFileWriter.mop
-Processing SafeFileWriter.mop
SafeFileWriter.rvm is generated
SafeFileWriterMonitorAspect.aj is generated
-Processing SafeFileWriter.rvm
SafeFileWriterRuntimeMonitor.java is generated
```

```
c:\code\aspectj\sfs>ajc -1.8 -d . SafeFileWriter_1.java *.aj
```

```
c:\code\aspectj\sfs>java -cp c:\RV-Monitor\lib\rv-monitor-rt.jar;c:\RV-Monitor\lib\rv-monitor.jar;c:\
\aspectj1.9\lib\aspectjrt.jar;. SafeFileWriter_1
1:3
2:2
3:2
4:2
5:3
write after close
write after close
write after close
```