

How to install the Java interface to Pythia 6

Preliminary

You can get the Java interface from pythiaJava.tar.gz.

Put it somewhere and extract with `tar -xvf <filename.tar.gz>` This will create a directory `evtgen` that contains the files.

Please also make sure that you have a proper version of a Java compiler with the JNI interface and that the environment variable `$JDK_ROOT` points to it.

Make sure the `LD_LIBRARY_PATH` variable contains the current directory. (.)

Make sure you have the pythia version you want

The distribution contains the file `evtgenpythiaisajet/pythia6xxx.f`. You can replace that file with your favourite version 6.x of Pythia.

Build the program

The program is built in the `evtgenpythiaisajet` subdirectory.

gcc3

If you have an older version of gcc, you most likely need to link against the g2c library. If you have the library, execute

```
g++ -shared -I$JDK_ROOT/include -I$JDK_ROOT/include/linux *.cpp *.f -lg2c -o ../libpythiaevtgen.so
```

gcc4

Newer versions of gcc come with the gfortran library. You can build the program with

```
g++ -shared -I$JDK_ROOT/include -I$JDK_ROOT/include/linux *.cpp *.f -lgfortran -o ../libpythiaevtgen.so
```

optimization

In tests, we found that the options `-O2 -march=nocona` lead to significant performance improvements.

Running the program

First drop into a bash shell (if you are not already, which would be a shame). Then `source setup.sh`.

Now you can just run the program with `java EvtGen 10` to generate 10 files.

The program is going to read the files `pythia.cmd` and `pythia.cards`. The outputfile is `events.stdhep`. If you want it to use a different generator, run the command like this. `java EvtGen 10 <name of lib> where <name of lib> is resolved to the name lib<name of lib>evtgen.so.`