

Setting an Environment

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In order to write the project, you should install **JFlex** and **CUP**. We also recommend to install and use **ANT** as your building tool.

Before start installing the tools you should learn how to set environment variables in your working environment. Explanations on setting environment variables in windows can be found in <http://vlaurie.com/computers2/Articles/environment.htm>. If you are using another OS, then you can easily find explanations in Google for setting environment variable for the specific shell.

JFlex

JFlex is a lexical analyzer generator tool that we will use for generating the lexical analyzer for our project.

In order to install and use **JFlex** you should do the following steps:

- Go to <http://jflex.de/download.html> and download **JFlex 1.4.2**
- Extract the distribution file to your C drive
- Add `C:\jflex-1.4.2\lib\JFlex.jar` to your environment variable `CLASSPATH`

CUP

CUP is a Parser generator tool that we will use for generating the parser for **IC**. In order to install and use **CUP** you should do the following steps:

- Download "CUP 11a beta 20060608" and "CUP 11a beta 20060608 runtime" from <http://www2.cs.tum.edu/projects/cup/>
- Make a directory `C:\CUP\` and place the jar files in this directory
- Add `C:\CUP\java-cup-11a-runtime.jar` and `C:\CUP\java-cup-11a.jar` to your `CLASSPATH`

ANT

Apache Ant is a build tool, similar to Gnu's make. In the project skeleton you can find a file "build.xml" that is being used by Ant in building your project.

In order to install and use Ant you should do the following steps:

- Go to <http://ant.apache.org/> and download Ant 1.7.1
- Extract the ant distribution file to your C drive
- Set an environment variable `ANT_HOME` to point to `C:\apache-ant-1.7.1\`
- Add `C:\apache-ant-1.7.1\bin\` to your `PATH` (one of windows environment variables)
- Set an environment variable `JAVA_HOME` to point to your JDK installation

Complete installation instructions can be found in Ant's manual at:
<http://ant.apache.org/manual/install.html#installing>

After installing the above tools, add the current directory (".\") to your `CLASSPATH`. Assuming that your `CLASSPATH` was not previously defined, then it should be:

```
C:\jflex-1.4.2\lib\JFlex.jar;C:\CUP\java-cup-11a-runtime.jar;C:\CUP\java-cup-11a.jar;.\
```

Finally, after doing all the above you can either go to `IC_COMPILER\src\IC\Parser\` and type "java JFlex.Main IC.lex" or to `IC_COMPILER\` and type "ant scanner" to generate your IC Lexical analyzer. For building the project using Ant, go to your `IC_COMPILER` directory and type ant.