

Setting Up *Tejas*

Getting Started

1. Place the installation script *install_tejas.py* in the folder where you wish to place the source code of Tejas.
2. Run the script : *python install_tejas.py*. You will be prompted for your username and password. Please follow instructions shown on terminal.
3. The script first prints the list of required packages. Make sure you have the same installed.
4. The script then downloads the source code (to folder *Tejas* – let’s call this folder *tejas-dir*), configures and then builds the software. A simple program is then simulated, to test if the build was successful. Please check if the output file is generated (the path of the output file is printed by the script).

A folder *PIN* is created – let’s call this *pin-dir*.

Running Simulations

- The configurations used by the simulator (for example, size of the L1 cache) are mentioned in a configuration file – a sample file is given in *tejas-dir/src/simulator/config/config.xml*. Create copies of this file and make changes as required.
- Run the following commands in *tejas-dir*:
 - *ant clean*
 - *ant*
 - *ant make-jar* – this creates a jar file *tejas-dir/jars/tejas.jar*.
To change the jar filename, change line 5 of *tejas-dir/build.xml* accordingly.
 - *java -jar jar-file config-file result-file benchmark*.
The outcome of the simulation is written to *result-file*; *benchmark* is the x86 executable that is to be simulated. Note : always use absolute pathnames for specifying the arguments.

- It is recommended to use the eclipse IDE to work with Tejas. Eclipse can be freely downloaded. Depending on the version of eclipse,
 - In File→New→Java Project, create a project from existing source, namely, *tejas-dir*, OR,
 - Go through File→Import→General→Existing projects into workspace, and use *tejas-dir* as the root directory.

General Instructions

- Please use absolute paths always.
- The *pin-dir* used in *tejas-dir/src/emulator/pin/makefile.gnu.config* and the configuration file must be the same.

Trouble Shooting the set-up

- If the error message displayed is “pin.h not found”, check the *tejas-dir/src/emulator/pin/makefile.gnu.config* file if *PIN_KIT* is set correctly to *pin-dir*.
- If the error message displayed is “jni.h not found”, locate where Java is installed on your system, and accordingly update JNINCLUDE in the file *tejas-dir/src/emulator/pin/makefile*.
- If the error message is of the form :

E:Attach to pid 27344 failed.

E: The Operating System configuration prevents Pin from using the default (parent) injection mode.

E: To resolve this, either execute the following (as root):

E: \$ echo 0 > /proc/sys/kernel/yama/ptrace_scope

E: Or use the ”-injection child” option.

E: For more information, regarding child injection, see Injection section in the Pin User Manual.

run the command “echo 0 > /proc/sys/kernel/yama/ptrace_scope” as the root user.