

CSE 5306-004

Distributed Systems

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To complete this project, I have used the following third-party Libraries as Follows

(1) Apache Commons Language -3

Web Site: <https://commons.apache.org/proper/commons-lang/>
Apache Commons Lang provides a host of helper utilities for the java.lang API,

notably String manipulation methods, basic numerical methods, object reflection,
concurrency, creation and serialization and System properties.

(2) Apache Commons IO

Web site: <https://commons.apache.org/proper/commons-io/>

Library for file related IO operations. Easy to use java classes for file stream operations and file copy and directory related operations.

(3) JANSI

Web Site: <https://github.com/fusesource/jansi> and
<http://fusesource.github.io/jansi/>

Jansi is a small java library that allows developer to use ANSI escape sequences
to format the console output which works even on windows.

(4) KRYONET

Web Site: <https://github.com/EsotericSoftware/kryonet>

KryoNet is a Java library that provides a clean and simple API for efficient TCP and UDP client/server network communication using NIO.
KryoNet is ideal for any client/server application. It is very efficient.
KryoNet can also be useful for inter-process communication.

(4) H2 - DATABASE

<https://www.h2database.com/html/main.html>

H2 database is pure Java database engine. It can work both as embedded in process database engine or as client server database engine.

Instructions to Run the application

This assignment is built using ANT.

- 1) Firstly, Set ANT PATH. If not installed ANT; download ANT from:
<https://ant.apache.org/bindownload.cgi>
- 2) SET ANT HOME in System environment variable and copy that path and open build.bat file with any text editor and simply paste it in SET variable.
- 3) I have used several libraries which I have stored in lib folder. Build.xml file has path to ../lib folder which will be used to compile all the java source files.
- 4) I have used several libraries which I have stored in lib folder. Build.xml file has path to ../lib folder which will be used to compile all the java source files.
- 5) Run build.bat file to compile all source java files. Build.bat file will automatically compile all the .java files and compiled .class files will be stored in ../out/test/ folder.
- 6) After all the above steps, double click on run-server.bat file and follow-on screen instructions for running the server. a. In my application, we do NOT need to run client separately because I have designed my server in such a way that using single command line window and that window will itself work as client side.

Additional steps to try addition of lab#3:

- 7) After successfully running above instructions, open a new command line window in the path and test the locking/unlocking and update according to order they appear.
- 8) To lock a file type "file-lock lock [index of the file].
- 9) To unlock that file type "file-lock unlock [index of the file].

10) To revert (Applying updates), type “file-lock revert [index of the file].