CS550 Advanced Operating Systems
Programming Assignment 2

Manual

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The assignment is done is Java and run through ANT build file. ANT is used to automate the execution of the program .
Here are three Main Classes to be executed.

PA2

- PeerServer.java
- PeerClient.java

EVALUATION

- EvaluationClient1.java
- Peerserver.java

Resilience

- Resilience.java
- Peerserver.java
- Peerclient.java

Execution:
The program is run through ANT build file in the project CS550PA2/build/ folder.

To execute the program in Linux systems.
First Open terminal and navigate to the build directory containing build.xml
and run the command **ant -buildfile build.xml**
you are prompted on terminal with “BUILD SUCCESSFUL”.
To execute the three programs follow:

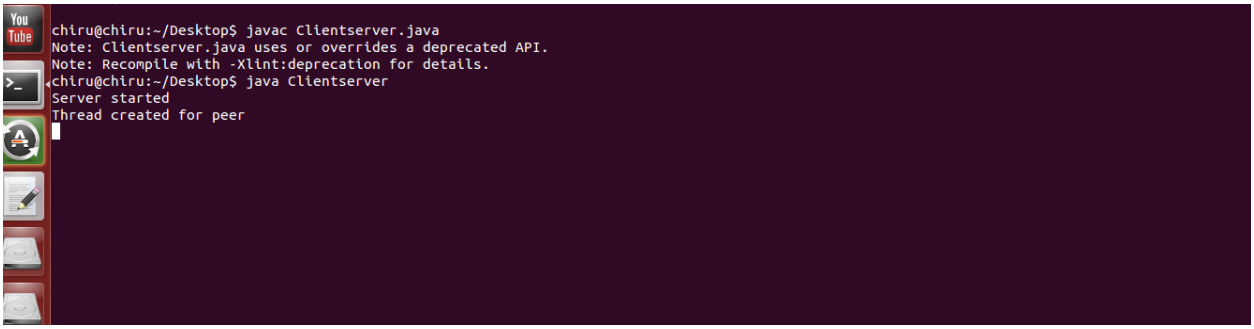
1. **Executing PeerServer**

PeerServer program can be executed with or without replication

Without Replication:

Here, Assign the port in the serverside code(Peerserver.java).There are 8 servers,The ports of each server are 2222,3333,4444,5555,6666,7777,8888,9999.It essentially executes the PeerServer.java program

After Executing the Peerser.java,it will create a thread for each peer.



With Replication :

In linux, run the peerclient.java, and stop the main server thread. It essentially executes the PeerServer.java program and it will run the Resilience.java (peerserver.java creates a object resilience to provide replication)

To start 8 servers run commands:

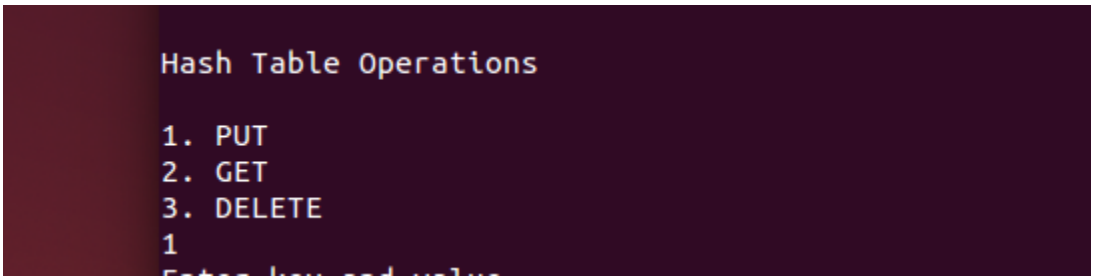
Same like as Peerserver.java, it will execute the code and store the data in next node of the current server.

2. **Executing PeerClient**

To run the PClient program first navigate to the build directory in the project folder and then run the command “ant runPeerClient” . It builds the PeerClient.jar source files and prompts

For put operation :

- **Enter 1**
  you’re prompted to give key (Keys are Strings)._



For retrieve :

- **Enter 2**
  you're prompted to give key (Keys are Strings)._

For Delete:

- **Enter 3**
  you're prompted to give key (Keys are Strings).

For exit :

- **Enter n**

3 Executing Evaluation

To evaluate the performance, first execute PeerServer without replication using the command mentioned above and then
run command ant - runEvaluation. It builds the Evaluation.jar (Peerserver.java) source files.
And run the each client side program as shown below:

For one node:
Run the EvaluationClient1.java
For two nodes:
Run the EvaluationClient1.java
Run the EvaluationClient2.java
For Four nodes:
Run the EvaluationClient1.java

Run the EvaluationClient2.java
Run the EvaluationClient3.java
Run the EvaluationClient4.java

For Eight nodes:

Run the EvaluationClient1.java
Run the EvaluationClient2.java
Run the EvaluationClient3.java
Run the EvaluationClient4.java
Run the EvaluationClient5.java
Run the EvaluationClient6.java
Run the EvaluationClient7.java
Run the EvaluationClient8.java