DISTRIBUTED SYSTEMS (CSE 5306-004)

[INSTRUCTOR- Chance Ray Eary]

**THREE – PHASE COMMIT**

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* **PROGRAMMING LANGUAGE**: Java
* **IDE**: IntelliJ IDEA 2018.1
* **EXTERNAL PACKAGES:** None Required.
* **SERVER**:
  + ChatServer.java - Initializes the chat server at a default port (9001) which relays the messages between the coordinator and other clients.
* **CLIENT**:
  + Client.java - Implements a single client which communicates with the server, the coordinator, and the other clients on the provided IP & port number.
* **COORDINATOR**:
  + Coordinator.java- Implements a coordinator which performs actions based on the two-phase commit protocol.
* **INSTRUCTIONS TO COMPILE** (MacOS Terminal):
* Go to “Sharma\_lxs1210” directory. (Eg: cd /desktop/Sharma\_lxs1210)
* Compile the Chat Server:
* javac ChatServer.java
  + Compile the Coordinator:
* Javac Coordinator.java
  + Compile the Clients:
* javac client.java
* javac client1.java
* javac client2.java
* **INSTRUCTIONS TO RUN** (MacOS Terminal):
* Run Chat Server:
* java ChatServer
* Run Clients:
* java client/client1/client2
* Enter the IP address (enter localhost OR 127.0.0.1 if running the client and the server on the same machine.)
* Enter username. The program keeps asking for username until a unique name is provided.
  + Run Coordinator:
* Java Coordinator
* Enter the IP address (enter localhost OR 127.0.0.1 if running the client and the server on the same machine.)
* **NOTE** – Put the username as “coordinator” to run the program successfully.

* **REFERENCES:**
* Socket Programming:

<https://docs.oracle.com/javase/tutorial/networking/sockets/index.html>

* GUI and Base Program:

<http://cs.lmu.edu/~ray/notes/javanetexamples/>

* Two – Phase Commit:

<https://drive.google.com/drive/folders/0B8CebiqB_IUoQ2RmUy05WkRnUW8>

<http://www.oracle.com/technetwork/middleware/ias/how-to-midtier-2pc-088883.html>