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**Execution Steps: -**

\*This application is written using Python version 2.7, need to install Tkinterable from the IDE for the first time execution in a new project environment

\*go to file->settings->Project->project Interpreter, click + button on the righthand corner, type <tkintertable> in the box and click on install package button and close after installation.

\*After this gets installed, now we can use the project for execution.

\* First Execute the Server.py class file

\* Now execute the client.py class file

\* A GUI pops up

\* In the first text box enter the username/client name of the chat box, click login button.

\* The application checks the bad username for client, it accepts only username less than 8 characters.

\* In the second text box, enter the message to be sent, click send button.

\* If another client.PY is executed at same time, add username/client name of the chat box, click login button.

\* In the second box, enter the message to be sent, click send button.

\* Now type any message in client 1, press send it will broadcast the messages from the server to the other client as well.

\* Similarly send the second message from client 2, it will tell client 1’s message through broadcast.

\*Buttons Abort and Pre-commit sends the commit or abort request to the coordinator and it decides to perform a global abort or commit.

Server: -

\* The server class takes the application with the dynamic values of host name, port number based on the system in which it executes.

\* Creates a socket with Socket Family, socket stream.

\* Prints Thread ID for every client

\* Binds the socket with host and port.

\* Creates a thread for every socket.

\* Client list is one in which it maintains a list of clients and can permit only until 4 active clients.

\* Check if the client is within 4 clients.

\* Provides a client socket connection.

\* Accepts the client socket number, address from the server.

\* Collects the username from the client.

\* Displays that it has been connected.

\* Next gets the message from the client.

\* checks if the message is not an exit message.

\* if not, it would broadcast the message to all the connected clients.

Participant: -

\* Client class takes the host and port dynamically.

\* Creates a client socket.

\* Sends the socket details to the server.

\* Opens a Tkinter GUI.

\* Accepts username with Login button.

\* Accepts only username with 9 characters.

\* User types a message in the second text box.

\* After if other clients are connected, broadcasts the messages from others via server to the current box.

\*the messages are sent to the server with Http format

\* If pressed exit button, it would exit the connection

\*The client can abort or commit a message sent from the coordinator

Coordinator: -

\*coordinator acts as a semi server here.

\*Logs in the system

\*Types a message and requests for votes to the participants

\*If the participants give commit or abort it accepts the message and prints them into the non-volatile storage.

\*If the participants issue an abort or no response leads to global abort and the message will not be stored in the Txt file.

PYTHON Version: - 2.7.4

IDE Used: - PyCharm

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