

United International University (UIU)

CSE 2118 Home Assignment

In this assignment you will have to implement a console group messaging using **socket programming** of Java Networking. There will be:

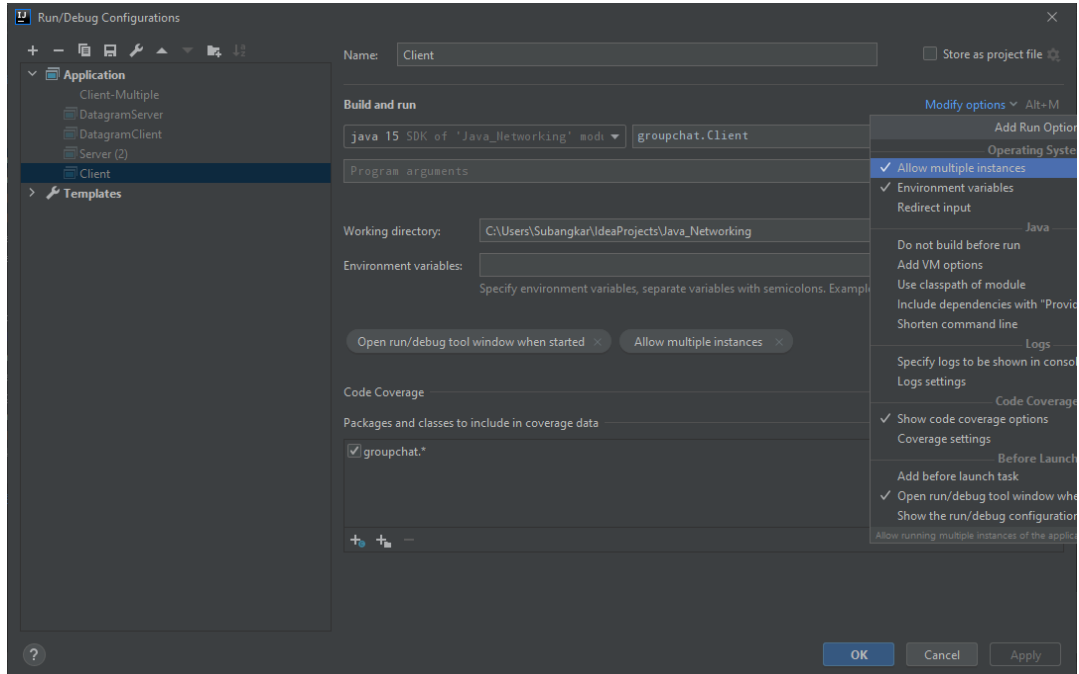
- Multiple clients
- Single server
- Use IP Address: **localhost (127.0.0.1)** and Port: **8080** of the server
- Server starts first
- Client connects to server first with server's ip address and port number
- Whenever a client connects, give it a new name as Client-0, Client-1, Client-2,.....
- Client sends a message taking input from its console **to server**
- Server broadcasts that to all **other** connected clients
- Print event messages properly in server console
- **Output Demo:**
<https://drive.google.com/file/d/1QjE3nMUiZxA6-gtgUycf7Ra6gU4BsmUy/view?usp=sharing>
- **Bonus 1:** Print server event messages to a file
- **Bonus 2:** When a new client joins, send all previous messages to it from server and print in its console along with senders name

Works:

1. Maintain a **hashtable** at server to keep the mapping between clientname and client socket i.e. pair via socket as key and name as value
2. Keep a separate thread for each client socket to **simultaneously** read from it and forward to every other sockets

Relevant:

- a. To run multiple instances of clients modify the run configuration of the IntelliJ as following



- b. <https://docs.oracle.com/javase/8/docs/api/java/util/Hashtable.html>
- c. https://www.tutorialspoint.com/java/java_hashtable_class.htm
Look into put(key, value), get(key), keys(), Enumeration, Iterating over hashtable keys would be handy
- d. You can do the task using the codes provided in class as template.