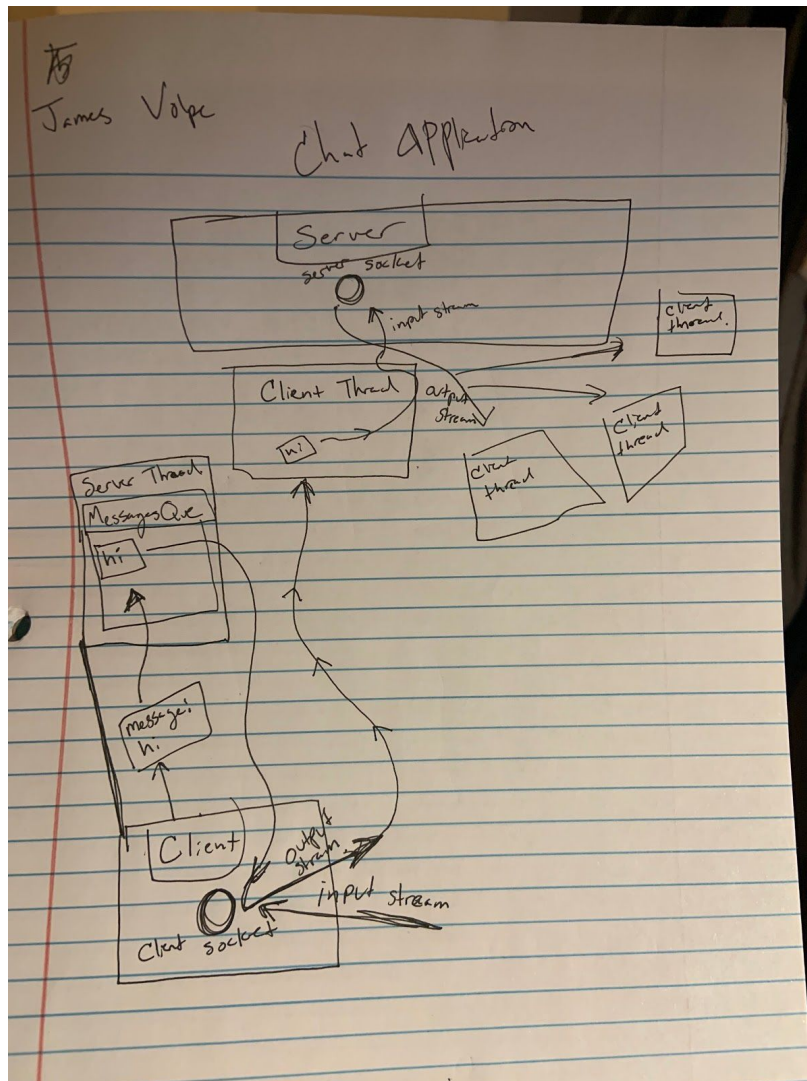


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COM S 319
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Chat Application Report

The approach I took for the assignment was moderately complex in my opinion. I've included a diagram of how my solution functions below.

Diagram

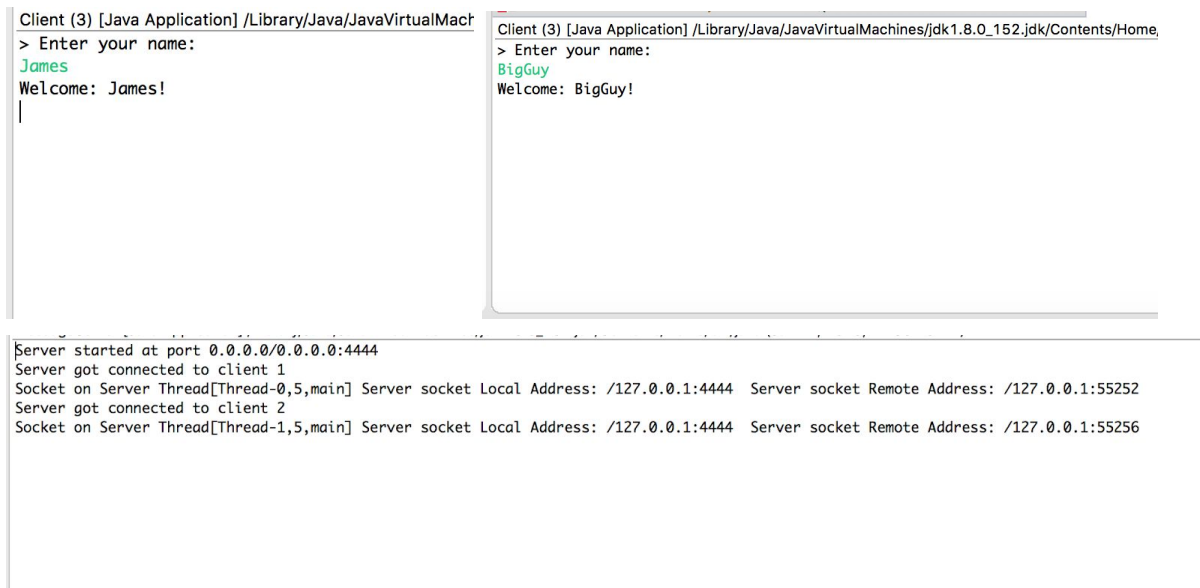


Description

Each client creates a server thread when it connects to the server. This server thread contains a queue of messages that the client types into their console. It is the server thread's job to take these messages, and using a `PrintWriter`, send them through the output stream of the client's socket. In addition, it is also the server thread's job to receive any messages coming in through the socket's input stream, and print them to the console of the client.

Each time a client connects to the server, a client thread is created. It is the client thread's job to receive messages coming through the input stream of the server's socket, print them to the server console, and then send them out (using a `PrintWriter`) to every client thread the server has.

Screenshots



The screenshot displays three separate Java application windows. The top-left window, titled 'Client (3) [Java Application] /Library/Java/JavaVirtualMac...', shows a prompt '> Enter your name:' followed by the user input 'James' in green text, and a response 'Welcome: James!'. The top-right window, titled 'Client (3) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_152.jdk/Contents/Home', shows a similar prompt and input 'BigGuy' in green text, with a response 'Welcome: BigGuy!'. The bottom window is a larger console window showing server logs: 'Server started at port 0.0.0.0/0.0.0.0:4444', 'Server got connected to client 1', 'Socket on Server Thread[Thread-0,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55252', 'Server got connected to client 2', and 'Socket on Server Thread[Thread-1,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55256'.

```
Client (3) [Java Application] /Library/Java/JavaVirtualMac...
> Enter your name:
James
Welcome: James!

Client (3) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_152.jdk/Contents/Home
> Enter your name:
BigGuy
Welcome: BigGuy!

Server started at port 0.0.0.0/0.0.0.0:4444
Server got connected to client 1
Socket on Server Thread[Thread-0,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55252
Server got connected to client 2
Socket on Server Thread[Thread-1,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55256
```

Client (3) [Java Application] /Library/Java/JavaVirtu

▸ Enter your name:

James

Welcome: James!

Hi guys

Client (3) [Java Application] /Library/Java/JavaVirtualMachines/

> Enter your name:

BigGuy

Welcome: BigGuy!

James > Hi guys

MessageServer [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_152.jdk/Contents/Home/bin/java (Jan 27, 2019, 11:36:46 PM)

Server started at port 0.0.0.0/0.0.0:4444

Server got connected to client 1

Socket on Server Thread[Thread-0,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55252

Server got connected to client 2

Socket on Server Thread[Thread-1,5,main] Server socket Local Address: /127.0.0.1:4444 Server socket Remote Address: /127.0.0.1:55256

James > Hi guys