

TTM INNLEVERING 1

TTM4100 - COMMUNICATION SERVICES AND NETWORKS

Gruppe 7:

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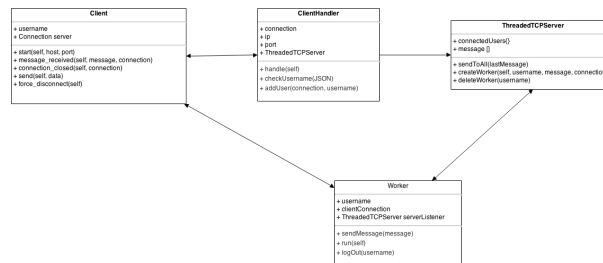
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1 Introduction

This document contains the exercise description of the group exercise in TTM4100. It contains the class diagram of a simple chat server, the sequence diagrams as a short design description.

2 Class diagram

In our class diagram, as seen in figure 1, we have described several relations as listed in the following sections.



Figur 1: class diagram

2.1 Client-ClientHandler relation

Client sends login request to ClientHandler with desired username in a JSON format. ClientHandler performs a check on username in ThreadedTCPServer.connectedUsers{ } dictionary. If denied the ClientHandler will send an error message back to the Client in a JSON format.

2.2 Client-Worker relation

Client sends a message to Worker in a JSON format. Client can send a logout message in a JSON format. Worker can send messages to the client in a JSON format.

2.3 ClientHandler-ThreadedTCPServer relation

ClientHandler can check if a username exists in the connectedUsers dictionary in ThreadedTCPServer. ClientHandler can add a new user to connectedUsers dictionary with a connection and username.

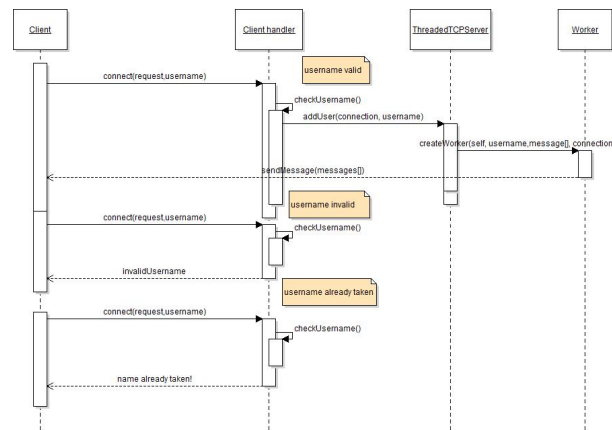
2.4 Worker-ThreadedTCPServer relation

ThreadedTCPServer can create a new worker, and delete existing workers. ThreadedTCPServer can broadcast messages to all Workers. Worker informs ThreadedTCPServer of new messages. Worker informs ThreadedTCPServer when a Client has logged out.

3 Sequence diagram

3.1 Login sequence diagram:

Client connects to the server (client handler) with a JSON object. Server checks that the username is valid and unique as shown in figure 2.



Figur 2: Sequence login

1. If it is valid it forwards the connection and username to ThreadedTCP-Server. Which creates a new worker and adds the username as a key in the dictionary which refers to the worker object. The newly created worker sends all earlier messages back to the client.
2. Invalid username, sends a error message back to the client.
3. A username already taken will also create a error message back to the client.

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