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Assignment 4 - report

Concurrency is used to support multiple connections simultaneously by assigning a thread to each client. Each client is connected one thread on the server.

Synchronization is used when the server threads are accessing the hash map, using synchronized blocks in the run method.

The server may lose messages if no synchronization is used as multiple threads will be accessing the hash map is no synchronization is used.

The client may allow multiple users to have the same username if synchronization is not used if multiple users login at the same time.