# Create a CLI internet chat interface

## Problem Statement

Implement a websockets based chat server that be used for exchanging text messages as well as running system commands on the other machine (linux). You need to devise a protocol to identify the type of incoming data and correspondingly treat it like a text message or an instruction to run a command.

The messages should be encrypted with RSA to ensure that the socket stream is secure.

## Requirements

* Implement the chat server to serve multiple clients which should be emulated in the solution.
* The chat **server** should have only **one** **worker**.
* Multiple requests from different clients must be handled by implementing a **priority** **message** **queue**.
* The messages should be encrypted **using RSA.**
* The server should also respond to the client with the **ACK** message after each successful operation and **NOACK** for each failure[if the linux command throws up an error].
* Your assignment pipeline should have **1 server with 20 clients**, each sending messages to the server that are randomly selected from a **message.txt** files that should also be included along with the assignment.
* The pipeline should have **details logs for both the client and the server** for each and every operation.

## Instructions

1. Submit using the method mentioned below.
2. Your submission should contain a detailed instruction in README.md, to help us understand and run your assignment at our end.
3. Don’t include any library files, instead provide instructions on how we can install at our end.

## Judgement:

The assignment will be judged based on the

1. Structure, design and modularity in project
2. Accuracy and speed of code
3. Functionality completion
4. The commits and overall flow while development. (Solution approach)

## Constraints:

You are free to use any language or frameworks of your choice, but your README should be very detailed and should contain all relevant information.

## Submission:

**Time allotted:** 6 hours

Zip your directory as per instructions above and upload on the google form shared on mail.