## Overview

A chat application that allows multiple clients to connect to a server and communicate in real-time. The application will include a graphical user interface (GUI) using JavaFX. The application's core functionalities will be centralized in a "Core" folder for structured organization and easier maintenance.

## Learning Objectives

* Develop proficiency in setting up server-client communication using Java’s networking libraries to handle message exchange.
* Build a user-friendly graphical interface using JavaFX for the chat application, allowing users to send and receive messages conveniently.
* Gain experience using appropriate data structures to manage chat history and client information efficiently.
* Implement basic security and data validation to ensure secure and accurate message exchange.

## Requirements

* Implement a server application that handles multiple client connections and broadcasts messages.
* Use Java’s ServerSocket and Socket classes to establish connections.
* Develop a client application to connect to the server and send/receive messages.
* Build a JavaFX GUI to enable user-friendly message input and display.
* The system must handle multiple clients and messages simultaneously without significant lag.