Chat Messenger with Log Facility

Technology: Java Programming

Project Overview

This project is a **Java-based peer-to-peer chat application** that enables **real-time text-based communication** between users using **Java Socket Programming**.

Along with providing basic chat functionality, it also maintains a **log file** that records all conversation details in a periodic fashion for future reference.

The application is **platform and architecture independent**, running on any system with a **Java Runtime Environment (JRE)**.

Key Features

- **Peer-to-Peer Communication**
  - Uses **Java sockets** for direct communication between clients.
- **Real-Time Chat**
  - Enables instant **text-based messaging** between connected peers.
- **Chat Log Maintenance**
  - Logs all chat history with timestamps into a file.
  - Provides **periodic logging** for organized record-keeping.
- **Cross-Platform**
  - Runs seamlessly across different operating systems and architectures.
- **Lightweight & Extensible**
  - Can be extended to support group chat, file sharing, or encryption.

Learning Outcomes

- Practical knowledge of **Java Socket Programming (TCP/IP)**.
- Hands-on experience with **network programming concepts** (client-server, peer-to-peer).
- Implementation of **logging mechanisms** in applications.
- Understanding of **platform-independent communication** in Java.
- Foundation for building **scalable chat/messaging applications**.