# Chat Server

The application is divided in two packages

1. com.chat.bus: Contains the business logic to realize the chat application
2. com.chat.ui: Contains the browser version for the UI

In future we can add one more package to have a separate ui for mobile

## Package com.chat.bus

This package contains following sub packages

1. data: contains the following POJO class
   1. Message.java: Represent one chat message
2. service: contains the implementation of chat client and server, also the interfaces exposed to frontend to communicate with server and client. Contains following sub packages
   1. impl: Contains the implementation of Client and Server
      1. Client.java
      2. Server.java

Following classes are responsible to expose the functionality of server and client to the outside world.

1. ClientSvc: Interface implemented by Client class can be used by any frontend client to communicate with the client.
2. ClientUISvc: An abstract class, which must be implemented by the Client GUI to send message to chat server
3. ServerSvc: Used by the ServerMain to start and stop the chat server
4. threads: Contains the threads for client to send message and read message sent by the server respectively. Following class are found in it
   1. MessageSender: Thread to send messages to the server for each client.
   2. MessageReader: A thread for each Client and reads the messages sent by other users via server
5. utils: Contains the common logic to encrypt/decrypt messages and the type information of the messages
   1. EncryptionUtils: Class used to encrypt outgoing message and decrypt incoming message for a client
   2. Type: Enum class specifying the type of message

## Package com.chat.ui

The package contains the UI specific classes.

1. ClientUI: To create a client ui, connect to chat server and start the client to send/receive messages
2. ServerMain: To start the server