Armando Vucic

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Networking Essentials For Dev

Encrypt Decrypt Chat

This project is for encrypting and decrypting messages in Chat. This Chat has been made in my course from the first year, and I used most of that code for this project. And for the encrypting part I used AES 128-bit encryption the basic algorithm for encrypting and decrypting messages. Most of the code is from the stack overflow website; because this is first time I encountered encryption. But this AES algorithm is the most basic one. This project is made for learning purpose and for this assignment.

Inside the project there are 3 classes: one for client, one for server and one class who is doing the encryption and decryption.

The chat or the client class has simple GUI, first you need to input fields that are needed Nickname, IP and Port. IP and Port number you will get that from the user who is running the server. When all input is typed then it is checking is the Server up.

Text field for message is using method from class that is used for encrypting the message. When the Send button is clicked the message is encrypted with the secure key which is determined by the programmer for this purpose only. When the message is sent before it is written in chat text field it checks for the secure key is it the right one than with that same key it encrypts the message, if not the value from that message won’t be human readable just randomly characters.

Server class is responsible only for connecting and transmitting messages for the Clients there is no GUI for the server. Server only requires inputting the port number so the clients can connect to that server.

Encrypt and decrypt class is for encrypting and decrypting messages from the client with the secure key. It is using AES algorithm with 128-bit encryption. This algorithm requires key to be 16 characters, but in this case the key is set so users can see the encrypting and decrypting part. The key is set only for this project, there in the real world there are two keys for each user private and public key.

There are two jar files, one for the client and one for server. Client jar is runnable by double clicking. Server jar needs to run from the command prompt or terminal.

How to run:

Locate server.jar using the command prompt.

Example cd /Desktop/Chat/JarFiles press Enter

Java –jar Server.jar port number (1234) press Enter

When server.jar is running then run the Client.jar with double click. Client.jar is also in folder Chat/JarFiles/Client.jar

And input the fields with proper information and the port number which was set by Server.jar

And you should have up and running the Chat with encrypts and decrypts functions on Server.