Assignment 1 Report

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Introduction

Mail dox assignment is the basic project of computer network. There are several protocols to achieve them. In this assignment, I choose Smtp and Pop3 protocols to achieve message translation between Client and Server. Fore more, I also achieve bonus works of localhost transfer and multi-thread server.

Client

The achievement of client is based on java.net.socket package of the pair of server and port. Usually, port number is 25 at Smtp protocol, respectively 110 at Pop3 protocol.

In Smtp protocol, the Client should build the connection with the server firstly, and provide both address and password to login. With the preparation completed, It's allowed to send information (like from address, to address, subject and body text). Finally, after the server respond the full-sent signal, the client should quit the protocol at all.

In Pop3 protocol, the Client build a interactive system to ask question to Server. After the similar way of connection and login procedure, we can request more information from server. there are four basic operations of email management in the implement.
The first operation is about counting the number of email.
      The command format is "count"
Which means the server should return the total number of email in server and list all names of them.
The second operation is getting the full text of the i-th email.
      The command format is "get i"

In the operation, Client choose one email to ask full text including both from and to address, subject and body text.

The third operation is deleting the i-th email.

The command format is "delete i"

Because this operation could change the total number of email directly, we could create an useful feedback checking algorithm.

The last operation is quitting Pop3 protocol.

The command format is "quit"

Just like the end of Smtp protocol, this operation is used to break the connection.

Server

The achievement of server is based on java.net.serversocket package of one localhost port. Because of the occupation of port 25 and port 110, I change port to 2025 at Smtp protocol and 2110 at Pop3 protocol.

Both in Smtp protocol and Pop3 protocol, when serversocket accepts one link, I make a thread to hold this link, and begin message transmission part (SmtpServer.java & Pop3Server.java). In this part, server should distinguish each instructions and respond corresponding feedback(SmtpService.java & Pop3Service.java).