

Evaluation Question for Experiment No. 8

SMTP is used to send mails from a mail client to the mail server which does not help in the mail retrieval process. For that purpose, you need to implement the POP3 protocol. POP3 is a protocol to retrieve mails and manage the mailbox, maybe from a remote machine and does not handle mails' sending. (More details of POP3 are available in RFC 1939). In this assignment, you will implement a POP3 client-server.

Typically, the SMTP server and the POP3 server will run on the Mail Server. Your home machine will run the POP3 client to access the mailbox, and a SMTP client to send mail through the SMTP server.

By this time, you may have implemented the `smtpmail.c`, and `mailclient.c` programs. In this evaluation, you need to write a C program named `popserver.c` to run a POP3 server to let the *client* machine access and manage the mailbox (already created.) The program will take a command line integer argument `pop3_port` that will indicate the port on which the POP3 server will run.

mailclient.c

You may have already implemented the ***mailclient.c***, which could send a mail. The program should first be asking for the username and password. Once authentication is successful, it should then ask for the user's options and wait for user input from the keyboard. You may have already implemented the Send Mail and Quit options. Now you need to add an option ***Manage_Mail*** to the SMTP Client program you have already created.

1. Send Mail : Allows the user to send a mail
2. Manage Mail : Shows the stored mails of the logged in user only
3. Quit : Quits the program

Send_Mail function:

First a list of the mails in the logged in user's **Mail Box** is shown by the program on the screen in the following format:

<Sender's email id> <When received, in date: hour: minute> <Subject>

The program then gives a prompt to enter one sender's mail address. And the task is to filter out the mails from that specific sender.

1. If the mail ID is invalid print "INVALID MAIL-ID" and give one more chance to enter the mail ID. If the mail is invalid again, go back to the 3 options menu.
2. If the mail ID is valid and if there is no mail from that specific sender, "NO MAILS TO SHOW" is printed and the user is supplied with the 3 options menu.
3. If the user enters a valid mail ID,

- (a) All the mails from that specific sender is shown on the screen (the entire content including From, To, Subject, Received, and message body).
- (b) The program waits on a `getchar()` after showing all the mails. If the character is 'q', sends to the server, the POP server then sends a "goodbye" message, closes the connection and go back to the 3 options menu. Otherwise, it returns to show the list of emails again when the user hits any other character (Also giving a prompt to enter one sender's mail address).

Note that the mails are stored in the MailServer machine as **mymailbox.mail**. To read them, the program will need to communicate with the POP3 server running on the MailServer machine. This will be done by opening a connection to the POP3 server and using the POP3 protocol.

Popserver.c

The client must send the username and password and authenticate itself to the POP3. Once the POP3 server has confirmed the client, the client should be given access to the appropriate mailbox.