

Experiment 8

Compile and run the smtp.c and mailclient.c as below:

```
gokulsreekumar@ubuntu: ~/Desktop/B180575CS
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ gcc smtpmail.c -o server
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ gcc mailclient.c -o client
gokulsreekumar@ubuntu:~/Desktop/B180575CS$
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./server 8888
SMTP Server Running at Port: 8888 ...
```

```
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ gcc smtpmail.c -o server
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ gcc mailclient.c -o client
gokulsreekumar@ubuntu:~/Desktop/B180575CS$
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./server 8888
SMTP Server Running at Port: 8888 ...
New connection at 127.0.0.1 : 34938

gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username:
```

Note that Port number has to be given as a terminal line argument for both server and client to determine the port to listen and connect to respectively.

Client must enter a Username and Password, which is sent to Server to be verified by using the logincred.txt file and once successful it will display “You are successfully logged in” message and also a Menu with 2 options as below:

```
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username: Stallings
Please enter the password: network$security
You are succesfully logged in.
1. Send Mail
2. Quit
Enter your option:
```

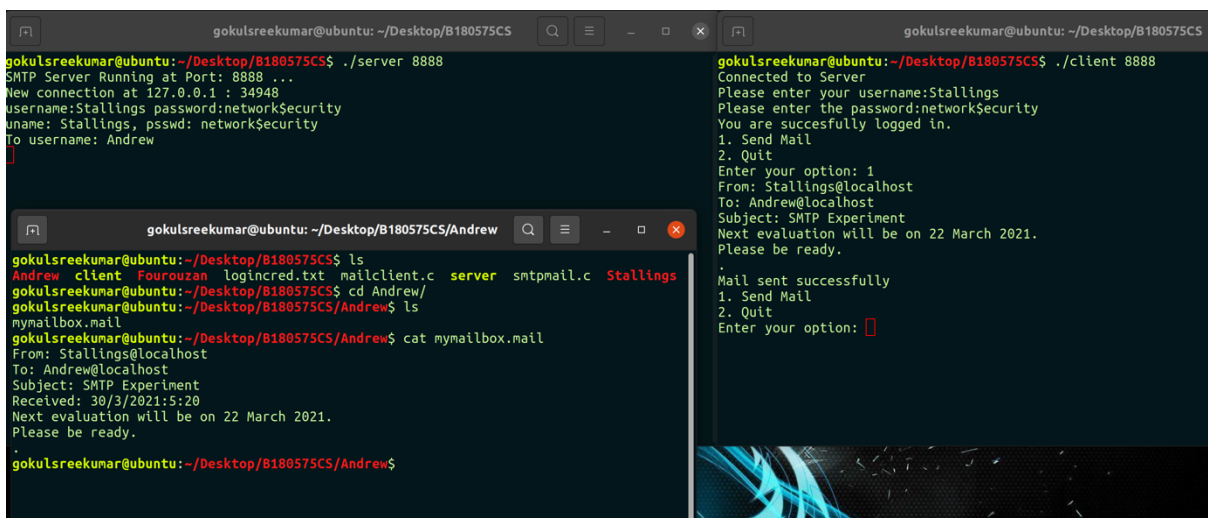
The client has to obey to the given format for sending the email. If the format is wrong “Incorrect format” message will be displayed, otherwise the mail is attempted to be sent to the correct receiver. If the receiver’s username is correct and the email was delivered, then “Mail sent successfully” message is displayed:

```

gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username: Stallings
Please enter the password: network$ecurity
You are successfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Next evaluation will be on 22 March 2021.
Please be ready.
.
Mail sent successfully
1. Send Mail
2. Quit
Enter your option: █

```

We can see that since the Email was sent to Andrew, in his corresponding folder, inside the mymailbox.mail file, the email has been recorded along with the received date and time as:



The screenshot shows three terminal windows. The top-left window displays the SMTP server logs for a connection from 127.0.0.1:34948, showing the login of 'Stallings' and the sending of an email to 'Andrew'. The bottom-left window shows the contents of the 'mymailbox.mail' file, which contains the email details: 'From: Stallings@localhost', 'To: Andrew@localhost', 'Subject: SMTP Experiment', and 'Received: 30/3/2021:5:20'. The right window shows the client's interaction with the server, confirming the email was sent successfully.

```

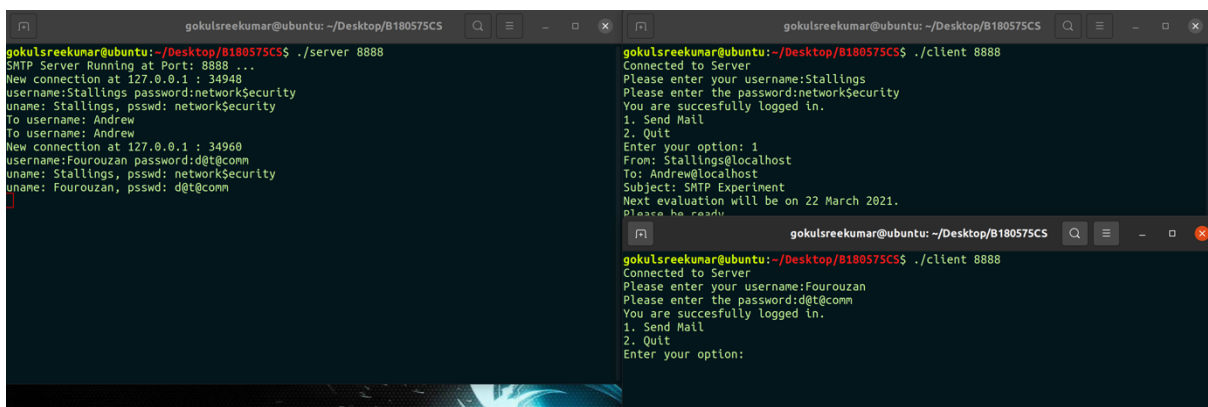
gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./server 8888
SMTP Server Running at Port: 8888 ...
New connection at 127.0.0.1 : 34948
username:Stallings password:network$ecurity
uname: Stallings, psswd: network$ecurity
To username: Andrew
]

gokulsreekumar@ubuntu: ~/Desktop/B180575CS/Andrew$ ls
mymailbox.mail
gokulsreekumar@ubuntu: ~/Desktop/B180575CS/Andrew$ cat mymailbox.mail
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Received: 30/3/2021:5:20
Next evaluation will be on 22 March 2021.
Please be ready.
.
gokulsreekumar@ubuntu: ~/Desktop/B180575CS/Andrew$

gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username: Stallings
Please enter the password: network$ecurity
You are successfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Next evaluation will be on 22 March 2021.
Please be ready.
.
Mail sent successfully
1. Send Mail
2. Quit
Enter your option: █

```

We can also have Multiple clients connected simultaneously to the Server by simply opening another client instance in a new Terminal Window/Tab as (here, Fourouzan was added as a second client concurrently connected to the server along with Stallings):



The screenshot shows three terminal windows. The left window shows the SMTP server logs with two concurrent connections: one from 127.0.0.1:34948 (Stallings) and another from 127.0.0.1:34968 (Fourouzan). The middle window shows the first client (Stallings) logging in and sending an email. The right window shows the second client (Fourouzan) logging in and ready to send an email.

```

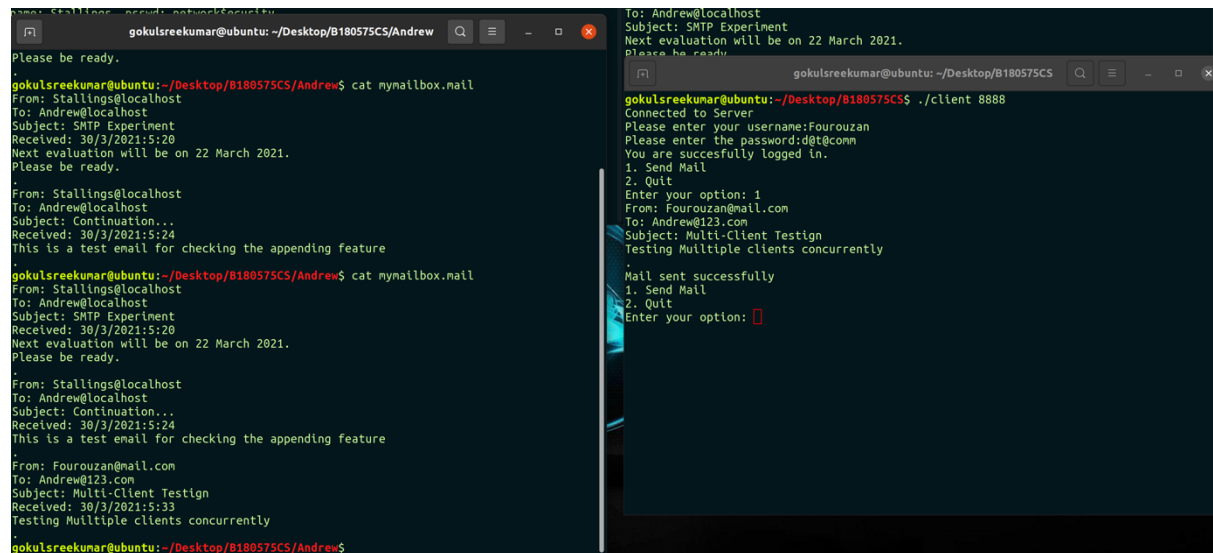
gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./server 8888
SMTP Server Running at Port: 8888 ...
New connection at 127.0.0.1 : 34948
username:Stallings password:network$ecurity
uname: Stallings, psswd: network$ecurity
To username: Andrew
]
New connection at 127.0.0.1 : 34968
username:Fourouzan password:d@t@comm
uname: Stallings, psswd: network$ecurity
uname: Fourouzan, psswd: d@t@comm
]

gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username: Stallings
Please enter the password: network$ecurity
You are successfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Next evaluation will be on 22 March 2021.
Please be ready.
.

gokulsreekumar@ubuntu: ~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username: Fourouzan
Please enter the password: d@t@comm
You are successfully logged in.
1. Send Mail
2. Quit
Enter your option:

```

Now, if Fourouzan (the second client) also sends an Email to Andrew then, we can see that email appends to the mymailbox.mail file as seen here:

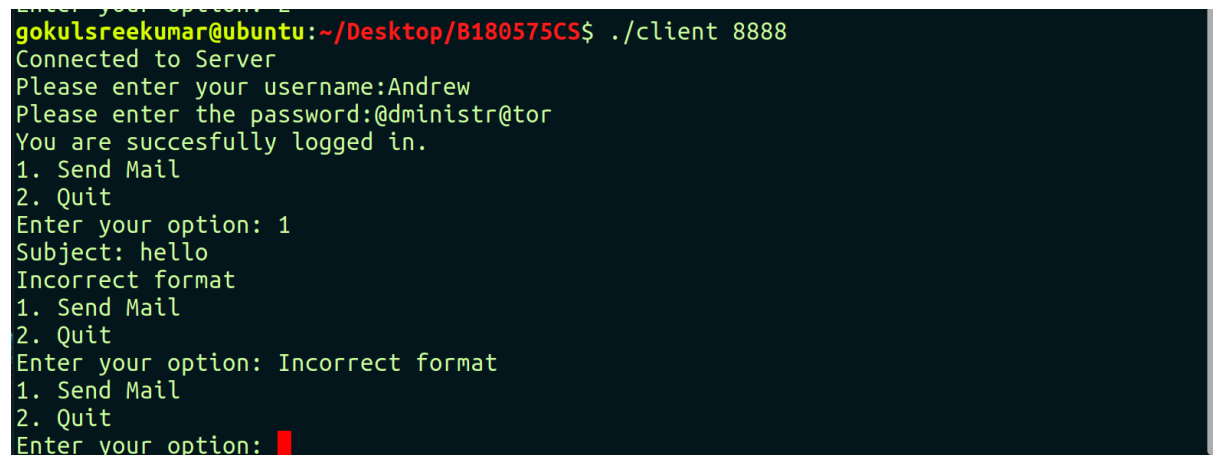


The image shows two terminal windows. The left window displays the contents of the 'mymailbox.mail' file, which contains three email messages. The first two are from 'Stallings@localhost' to 'Andrew@localhost' with subject 'SMTP Experiment'. The third is from 'Fourouzan@mail.com' to 'Andrew@123.com' with subject 'Multi-Client Testign'. The right window shows a client (8888) connecting to a server, logging in with username 'Fourouzan' and password 'd@t@comm', and then sending an email with the same subject as the third message in the mailbox.

```
gokulsreekumar@ubuntu: ~/Desktop/B180575CS/Andrew
Please be ready.
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$ cat mymailbox.mail
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Received: 30/3/2021:5:20
Next evaluation will be on 22 March 2021.
Please be ready.
.
From: Stallings@localhost
To: Andrew@localhost
Subject: Continuation...
Received: 30/3/2021:5:24
This is a test email for checking the appending feature
.
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$ cat mymailbox.mail
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Received: 30/3/2021:5:20
Next evaluation will be on 22 March 2021.
Please be ready.
.
From: Stallings@localhost
To: Andrew@localhost
Subject: Continuation...
Received: 30/3/2021:5:24
This is a test email for checking the appending feature
.
From: Fourouzan@mail.com
To: Andrew@123.com
Subject: Multi-Client Testign
Received: 30/3/2021:5:33
Testing Multiple clients concurrently
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$

To: Andrew@localhost
Subject: SMTP Experiment
Next evaluation will be on 22 March 2021.
Please be ready.
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username:Fourouzan
Please enter the password:d@t@comm
You are succesfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
From: Fourouzan@mail.com
To: Andrew@123.com
Subject: Multi-Client Testign
Testing Multiple clients concurrently
Mail sent successfully
1. Send Mail
2. Quit
Enter your option: █
```

If the Email is written in a wrong format, then “incorrect format” error is shown:



The image shows a terminal window where a client (8888) connects to a server, logs in with username 'Andrew' and password '@dministr@tor', and then attempts to send an email. The email subject is 'hello', but the format is incorrect, leading to an 'Incorrect format' error message. The client is then prompted to enter an option, and the user enters 'Incorrect format'.

```
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username:Andrew
Please enter the password:@dministr@tor
You are succesfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
Subject: hello
Incorrect format
1. Send Mail
2. Quit
Enter your option: Incorrect format
1. Send Mail
2. Quit
Enter your option: █
```

If the email given in the To field (the receiver) is not Valid, then “Failed to send the Email” message is shown and also Email verification (X@Y) is also checked as seen below:

```

gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ./client 8888
Connected to Server
Please enter your username:Stallings
Please enter the password:network$security
You are succesfully logged in.
1. Send Mail
2. Quit
Enter your option: 1
From: Stallings@localhost.com
To: Unkown@email.com
Subject: Unkown Reciever
will show error
.
Failed to Send the Email.
1. Send Mail
2. Quit
Enter your option: 1
From: Stallings@123.com
To: Hello
Subject: Error in email format
Incorrect format
1. Send Mail
2. Quit
Enter your option: █

```

The folder structure for the Project is as below:

```

gokulsreekumar@ubuntu: ~/Desktop/B180575CS/Andrew
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ ls
Andrew client Fourouzan logincred.txt mailclient.c server smtpmail.c Stallings
gokulsreekumar@ubuntu:~/Desktop/B180575CS$ cd Andrew/
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$ ls
mymailbox.mail
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$ cat mymailbox.mail
From: Stallings@localhost
To: Andrew@localhost
Subject: SMTP Experiment
Received: 30/3/2021:5:20
Next evaluation will be on 22 March 2021.
Please be ready.
.
From: Stallings@localhost
To: Andrew@localhost
Subject: Continuation...
Received: 30/3/2021:5:24
This is a test email for checking the appending feature
.
From: Fourouzan@mail.com
To: Andrew@123.com
Subject: Multi-Client Testign
Received: 30/3/2021:5:33
Testing Muultiple clients concurrently
.
gokulsreekumar@ubuntu:~/Desktop/B180575CS/Andrew$

```