

CS3093D Networks Laboratory - Assignment 7

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Instructions

- Usernames and passwords are loaded from “userlogincred.txt”
- Code can be compiled using the following instructions

```
gcc mailclient.c -o mailclient
gcc popserver.c -o popserver
gcc smtpmail.c -o smtpmail
```

- “smtpmail”, and “popserver” take PORT as command line argument
- “mailclient” takes SMTP_PORT and POP_PORT as arguments
- Example invocation

```
./smtpmail 2525
./popserver 1110
./mailclient 2525 1110
```

Screenshots

Figure 1: Starting SMTP, POP Servers and trying to login with invalid password

```
1 2 3 4 11:39 /: 79% muted 17% 13% \ anandu.net 0 KB/s 0 KB/s 0 100%

./smtpmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_07] [main]
→ % ./smtpmail 2525
Listening on port 2525

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_07] [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection

Welcome anandu
1. Manage Mail
2. Send Mail
3. Quit
# 1
Error occurred
-ERR Invalid password [9.1s]

anandu@inspiron [11:39:42] [~/Desktop/networkslab/assignment_07] [main]
→ %
```

Figure 2: After logging in with valid password viewing mailbox with no messages

```
1 2 3 4 11:48 /: 79% muted 17% 13% \ anandu.net 0 KB/s 0 KB/s 0 100%

./smtpmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_07] [main]
→ % ./smtpmail 2525
Listening on port 2525

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_07] [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'

Manage Mail
No messages in mailbox
```

Figure 3: Sending an email to andrew@localhost after logging in as anandu using SMTP server

```

1 2 3 4 11:40 /: 79% muted 17% 26% % anandu.net 0 KB/s 0 KB/s 0 100%

./smtpmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./smtpmail 2525
Listening on port 2525
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
>> Received from 'anandu@localhost'
CMD: 'RCPT TO:<andrew@localhost>'
>> Received to 'andrew@localhost'
CMD: 'DATA'
CMD: 'subject: Hello andrew'
CMD: 'This is to test the SMTP Server'
CMD: 'Hope you are doing well'
CMD: '.'
DATA: received end marker
CMD: 'QUIT'

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'
CMD: 'QUIT'
Client closed connection

Send Email
from: anandu@localhost
to: andrew@localhost
subject: Hello andrew
body:
This is to test the SMTP Server
Hope you are doing well
.

Sending email
Mail sent successfully

1:./mailclient* 27/03 11:40:33

```

Figure 4: Logging in as andrew and viewing messages in his inbox using POP server

```

1 2 3 4 11:40 /: 79% muted 17% 26% % anandu.net 0 KB/s 0 KB/s 0 100%

./smtpmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./smtpmail 2525
Listening on port 2525
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
>> Received from 'anandu@localhost'
CMD: 'RCPT TO:<andrew@localhost>'
>> Received to 'andrew@localhost'
CMD: 'DATA'
CMD: 'subject: Hello andrew'
CMD: 'This is to test the SMTP Server'
CMD: 'Hope you are doing well'
CMD: '.'
DATA: received end marker
CMD: 'QUIT'

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'
CMD: 'QUIT'
Client closed connection
CMD: 'USER andrew'
CMD: 'PASS @adminstrn@tor'
CMD: 'STAT'
CMD: 'TOP 1 4'
>> handling command : 'TOP 1 4'

Manage Mail
Message: 1
from: anandu@localhost
to: andrew@localhost
received: Sun Mar 27 11:40:35 2022
subject: Hello andrew

1:./mailclient* 27/03 11:40:48

```

Figure 5: Trying to send invalid email with wrong domain

```

1 2 3 4
./smtmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./smtmail 2525
Listening on port 2525
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
>> Received from 'anandu@localhost'
CMD: 'RCPT TO:<anandu@localhost>'
>> Received to 'anandu@localhost'
CMD: 'DATA'
CMD: 'subject: Hello andrew'
CMD: 'This is to test the SMTP Server'
CMD: 'Hope you are doing well'
CMD: '.'
DATA: received end marker
CMD: 'QUIT'
Handling client with socket 5
CMD: 'AUTH andrew @ministr@tor'
CMD: 'MAIL FROM:<wrongusername@wrongdomain>'
CMD: 'QUIT'

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'
CMD: 'QUIT'
Client closed connection
CMD: 'USER andrew'
CMD: 'PASS @ministr@tor'
CMD: 'STAT'
CMD: 'TOP 1 4'
>> handling command : 'TOP 1 4'
CMD: 'QUIT'
Client closed connection

Send Email
from: wrongusername@wrongdomain
to: anandu@localhost
subject: hi there
body:
warnng
this should fail as username doesn't match
the logged in user
.

Sending email
Incorrect format for from address
ERROR: 551 User not local;

```

Figure 6: Trying to impersonate other user, and getting AUTH error

```

1 2 3 4
./smtmail 2525
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./smtmail 2525
Listening on port 2525
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
>> Received from 'anandu@localhost'
CMD: 'RCPT TO:<anandu@localhost>'
>> Received to 'anandu@localhost'
CMD: 'DATA'
CMD: 'subject: Hello andrew'
CMD: 'This is to test the SMTP Server'
CMD: 'Hope you are doing well'
CMD: '.'
DATA: received end marker
CMD: 'QUIT'
Handling client with socket 5
CMD: 'AUTH andrew @ministr@tor'
CMD: 'MAIL FROM:<wrongusername@wrongdomain>'
CMD: 'QUIT'
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
CMD: 'QUIT'
Handling client with socket 5
CMD: 'AUTH anandu test'
CMD: 'MAIL FROM:<anandu@localhost>'
CMD: 'QUIT'

./popserver 1110
anandu@inspiron [11:39:33] [~/Desktop/networkslab/assignment_0]
7) [main]
→ % ./popserver 1110
Pop server
Listening on port 1110
CMD: 'USER anandu'
CMD: 'PASS invalidpass'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'
CMD: 'QUIT'
Client closed connection
CMD: 'USER andrew'
CMD: 'PASS @ministr@tor'
CMD: 'STAT'
CMD: 'TOP 1 4'
>> handling command : 'TOP 1 4'
CMD: 'QUIT'
Client closed connection
CMD: 'USER andrew'
CMD: 'PASS @ministr@tor'
CMD: 'STAT'
CMD: 'TOP 1 4'
>> handling command : 'TOP 1 4'
CMD: 'QUIT'
Client closed connection
CMD: 'USER anandu'
CMD: 'PASS test'
CMD: 'STAT'
CMD: 'QUIT'
Client closed connection

Send Email
from: andrew@localhost
to: anandu@localhost
subject: hello
body:
this email should fail as i am
currently logged in as 'anandu'
but trying to send email as 'andrew'
.

Sending email
Incorrect format for from address
ERROR: 550 From address not same as logged in user

```