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8/31/2021
P538 Assignment 01_SSMTP

Task 1 – Interact with an SMTP server

2. SMTP Exchange

My full interaction with telnet and the mail-relay server is in “TelNetTerminalSessionTextDump.txt” and “Terminal Saved Output.txt.” It just basically includes the trial and error before doing the first question. Anyways... below is the terminal exchange between me and the SMTP server.

```
mumma@Ethans-MacBook-Air ~ % telnet mail-relay.iu.edu 25
```

```
Trying 129.79.1.38...
```

```
Connected to mail-relay.iu.edu.
```

```
Escape character is '^['.
```

```
220 Sendmail ESMTP - IU Campus Communications Team - Mail-Relay
```

```
HELO iu.edu
```

```
250 mail-relay.iu.edu Hello [140.182.74.31], pleased to meet you
```

```
MAIL FROM:ebehar@iu.edu
```

```
250 2.1.0 ebehar@iu.edu... Sender ok
```

```
RCPT TO:ebehar.iu.edu
```

```
550 5.1.1 ebehar.iu.edu... User unknown
```

```
RCPT TO:sice-networks-l@list.indiana.edu
```

```
250 2.1.5 sice-networks-l@list.indiana.edu... Recipient ok
```

```
DATA
```

```
354 Enter mail, end with "." on a line by itself
```

```
Date: Mon, 30 Aug 2021 03:08:00
```

```
From: Ethan Behar <ebehar@iu.edu>
```

```
Subject: Ethan Behar Assignment 01 SMTP
```

```
To:sice-networks-l@list.indiana.edu
```

```
Hello Professor Swany, Dominik, and Jeremy
```

```
Have a fun time grading. =D
```

```
Sincerely,
```

```
Ethan Behar
```

```
.
```

```
250 2.0.0 17UJ70QT009149 Message accepted for delivery
```

```
QUIT
```

```
221 2.0.0 mail-relay.iu.edu closing connection
```

```
Connection closed by foreign host.
```

```
mumma@Ethans-MacBook-Air ~ % telnet mail-relay.iu.edu 25
```

```
Trying 129.79.1.38...
```

```
Connected to mail-relay.iu.edu.
```

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```
Escape character is '^]'.
220 Sendmail ESMTP - IU Campus Communications Team - Mail-Relay
HELO iu.edu
250 mail-relay.iu.edu Hello [140.182.74.31], pleased to meet you
MAIL FROM:ebehar@iu.edu
250 2.1.0 ebehar@iu.edu... Sender ok
RCPT TO:ebehar@iu.edu
250 2.1.5 ebehar@iu.edu... Recipient ok
RCPT TO:sice-networks-l@list.indiana.edu
250 2.1.5 sice-networks-l@list.indiana.edu... Recipient ok
DATA
354 Enter mail, end with "." on a line by itself
Date: Mon, 30 Aug 2021 03:14:00
From: Ethan Behar <ebehar@iu.edu>
Subject: Ethan Behar Assignment 01 SMTP Part 2
To: sice-networks-l@list.indiana.edu
```

Hello Professor Swany, Dominik, and Jeremy
Sorry for a second e-mail. I wanted to receive this e-mail as well. But mistyped my e-mail the first time around.

Sincerely,
Ethan Behar

```
.
250 2.0.0 17UJD9vs009919 Message accepted for delivery
QUIT
221 2.0.0 mail-relay.iu.edu closing connection
Connection closed by foreign host.
mumma@Ethans-MacBook-Air ~ %
```

3.1. What happens when you try to send to a non-IU email address? Why?

The RCPT TO command receives a 550 error. The message is “Relaying denied. IP name lookup failed [140.182.72.62]. It is one of two things. 1) This failed because we are not an authorized user which implies there is a rule in place that only authorized users can send emails to a non-local email and unauthorized users cannot do this. 2) The mail-relay.iu.edu SMTP server does not pass the email message out to recipients outside of its local email address. This SMTP server only allows for local email. Because the SMTP server message contains “IP name lookup failed [140.182.72.62]” I am assuming the SMTP server only handles local email address. I would expect an error message with wordage regarding authorization if I needed to be authorized to send this email. Attempting to use ESMTP and the AUTH command tells me the AUTH LOGIN mechanism is not available.

3.2. What happens when you use a made-up from address? Why?

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The SMTP server allows us to send emails from made-up addresses. I imagine this is because there is no authentication or any sort of login functionality using the SMTP server this way. I, also, imagine this is slightly by design. We've learned the internet and its various layers and protocols were created without security in mind because when it was first created there were no bad actors. I think another factor is that we are directly interacting with an SMTP server. If we were using a user agent there could be authentication implemented which would make a scenario like this unlikely.

Task 2 - Write a simple SMTP client

Please see SMTP.py – there is commented code that will assign values to each variable needed to communicate with the SMTP server correctly. Feel free to use that or enter it via input. I used it just so I didn't have to go through the input()s every test run.