



## CIS 192 Linux Lab Exercise

Lab 9: Electronic Mail  
Spring 2009

### Lab 9: Electronic Mail

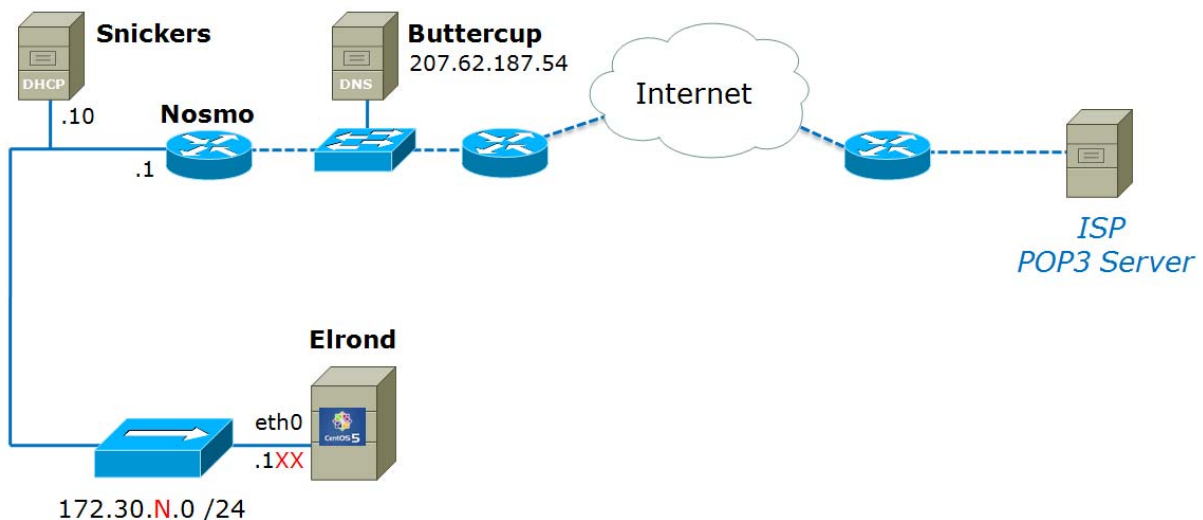
The purpose of this lab is to explore the ways client systems download their mail from mail servers that support POP3 and IMAP protocols. For this lab you need access to a mail folder on a server that provides POP3 service. You may use your mail folder supplied by your ISP, if you know the name of their POP3 or IMAP server.

There are also mail accounts set up for you on Hershey and at hayrocket.com that you can use. As a client, you can use your own Linux system at work or home, or you can use the systems on the Rivendell network.

**Notice:** Using the procedures below will download the messages on your POP server and may delete them from the POP server.

In this lab, you will retrieve the mail for a user using three different mechanisms:

1. Direct communication with the pop3 server
2. Evolution email program
3. fetchmail



.1XX is based on your station number and the IP Table in the Appendix

N=1 for the classroom and N=4 for the CIS lab or CTC

## Supplies

- VMWare Server 1.08 or higher
- 192 VMs shown above
- An email account with an ISP

## Preconfiguration

- Original versions of all VMs. Note, this will set the network configurations back to down or DHCP settings.
- If you plan to do this lab at home see: <http://simms-teach.com/howtos/129-working-at-home.pdf>

## Forum

Use the forum to ask and answer questions, collaborate, and report any equipment issues. Post tips and any lessons learned when you have finished. Forum is at: <http://simms-teach.com/forum/viewforum.php?f=18>

## Background

When you send an email using the Linux `/bin/mail` user agent, be sure the message actually leaves your computer before you check the destination mailbox. You can do this by checking the queue: `/var/spool/mqueue`. If queued messages are still there, run the command:

**sendmail -q**

to send them on their way.

The commands we will be using for this lab are:

- *telnet*
- */bin/mail (UNIX mail program)*
- *evolution (graphical email application)*
- *fetchmail*

Most of this lab can be run as a normal user. To install the fetchmail package and connect to the 172.30.N.0 network, you will have to be root.

## Procedure

### Setup

1. Revert Elrond to it's snapshot.
2. Cable Elrond as shown in the map above.
3. Send yourself a few short emails so you have some messages on your ISP's mail server to download. You can use your account on Opus send basic text messages using `/bin/mail` or your regular email program.

## Part I

You will begin by making sure that you have connectivity to your mail server via the Post Office Protocol. You need to be able to resolve your server's domain name or know its IP address. You will also need to know the password for the mail account you are going to read.

POP3 server: \_\_\_\_\_  
Account: \_\_\_\_\_  
Password: \_\_\_\_\_

In the lab you may use:

POP3 server: hershey  
Account: *firstname@middleearth.net*  
Password: \_\_\_\_\_

From home you may use:

POP3 server: mail.hayrocket.com  
Account: *firstname@hayrocket.com*  
Password: \_\_\_\_\_

1. Join Elrond to the 172.30.N.0 network and set the default route.  
**If you need to change the */etc/resolv.conf*, restart the sendmail service after doing so, as sendmail seems to cache information about its DNS server.**
2. Log in to your client system as a regular user.
3. Make sure you have a network connection with your POP3 server:  
**ping <server-name>**
4. Now, connect to the POP3 server using telnet and specifying port 110  
Note: If you are using an IMAP service, check the */etc/services* file for the port number  
**telnet <server-name> 110**  
You should be greeted with a +OK hello prompt from the POP3 server
5. Log in to the server by first providing the user name:  
**user cis192**  
If it's your account you are using, use your name rather than guest
6. Now supply the password:  
**pass cis192**
7. Once you are logged on, use the list command to see how many messages you have:  
**list**  
The listing shows the message number and how many bytes are in that message.
8. Experiment with the **retr** and **dele** commands  
Warning: the **dele** command deletes the message.
9. Now that you know you have access to your mailbox, quit this session with the POP3 server: **quit**

If you are using IMAP service, note that the command to login is:

**A001 login <username> <password>**

and to logout:

**A002 logout**

## Part II

In this procedure, we will configure the Evolution email program to read your mail locally.

1. Configure your guest X resolution to 1024 x 768 using the **vmware-config-tools.pl** command. Respond with a **no** to all other configuration changes. The network will need to be restarted with **service network restart**.
2. Startup Evolution from the graphic desktop (Applications > Internet > Email).
3. Use the wizard to enter your pop server, smtp server and your user account name used by your ISP.
4. When finished with the wizard, use the Send/Receive button to download your mail from the pop server.
5. You should now be viewing your mailbox on the server!  
Question: Are these messages downloaded from the server, or do they remain in your server mailbox?

## Part III

In this final step, we will install the fetchmail package and configure fetchmail to download our mail from the server to our local machine. But that's not all it does! As it downloads your mail, each message is passed on to your regular Mail Delivery Agent (MDA) and into your local mail box where it will be accessible by your local MUA. With fetchmail, you don't have to be continuously connected to your ISP. You might want to take this time to replenish your mailbox by sending yourself, or the guest account, some more messages.

**Notice:** Using the fetchmail procedure below will download the messages on your POP server and could delete them from the POP server.

The fetchmail rpm package, **fetchmail** should already be installed, if it isn't, you will have to download and install it. The package name is **fetchmail-6.3.6-1.1.el5** and you can use **yum install fetchmail** to install it.

Note: You must be root to install this package.

1. Now that fetchmail is installed, you can log in to your regular user account, say, cis192.
2. Create a configuration file for fetchmail that will tell it how to connect to your pop3 server like the following example:  

```
$ cat .fetchmailrc
poll mail.hayrocket.com protocol pop3
username firstname@hayrocket.com
password password
keep
```
3. This configuration file must be in your home directory and should be made readable by you only, for obvious security reasons:  
**chmod 400 .fetchmailrc**
4. You are now ready to download your new mail messages:  
**fetchmail**
5. When fetchmail has completed, use Linux `/bin/mail` to read your message on your local machine! You can save messages with the `s` command.  
(Ignore the three warning messages about CommonName mismatch.)

6. In a real world scenario, you would run fetchmail in the background and set it to check for your mail at specific intervals of time when you know you'll be connected to your ISP. See the fetchmail man pages for more documentation.

### To turn in

Your *lab09* text file should contain the following sections.

- Standard boilerplate information:
  - CIS 192 Lab *XX*
  - *Name*
  - *Date*
  - TBA hours: *X.X*
  - Station number: CIS-Lab-*XX*
- The telnet conversation you had with your ISP pop server to login and read a message.
- The .fetchmailrc file (you can fake the password field so you don't reveal your password)
- One email message downloaded using fetchmail that includes the header information (you can cat your mbox or mailbox file you created with the s command).
- Example command summary

The command summary should be a concise set of documented examples that can be used as a resource for repeated operations in future labs.

Check your work for completeness then submit as many times as you wish up until the due date deadline. Remember, **late work is not accepted**, so start early, plan ahead for things to go wrong and use the forum to ask questions.

**[p]scp lab09 cis192@opus.cabrillo.edu:lab09.*lastname***

### Grading rubric (30 points)

- 3 points for correct submittal, professional appearance and quality
- 8 points for the telnet conversation with the mail server.
- 8 points for a correct .fetchmailrc file
- 8 points for a downloaded email message showing all headers
- 3 points for complete and concise command summary

**Appendix** - Static IP address table by station number:

Station	IP	Static 1	Static 2
CIS-Lab-01	172.30.4.101	172.30.4.121	172.30.4.122
CIS-Lab-02	172.30.4.102	172.30.4.123	172.30.4.124
CIS-Lab-03	172.30.4.103	172.30.4.125	172.30.4.126
CIS-Lab-04	172.30.4.104	172.30.4.127	172.30.4.128
CIS-Lab-05	172.30.4.105	172.30.4.129	172.30.4.130
CIS-Lab-06	172.30.4.106	172.30.4.131	172.30.4.132

CIS-Lab-07	172.30.4.107	172.30.4.133	172.30.4.134
CIS-Lab-08	172.30.4.108	172.30.4.135	172.30.4.136
CIS-Lab-09	172.30.4.109	172.30.4.137	172.30.4.138
CIS-Lab-10	172.30.4.110	172.30.4.139	172.30.4.140
CIS-Lab-11	172.30.4.111	172.30.4.141	172.30.4.142
CIS-Lab-12	172.30.4.112	172.30.4.143	172.30.4.144
Pod 1		172.30.4.113	172.30.4.145
Pod 2		172.30.4.114	172.30.4.146
Pod 3		172.30.4.115	172.30.4.147
Pod 4		172.30.4.116	172.30.4.148