

# CIS 192 Linux Lab Exercise

## Lab 9: Electronic Mail Spring 2013

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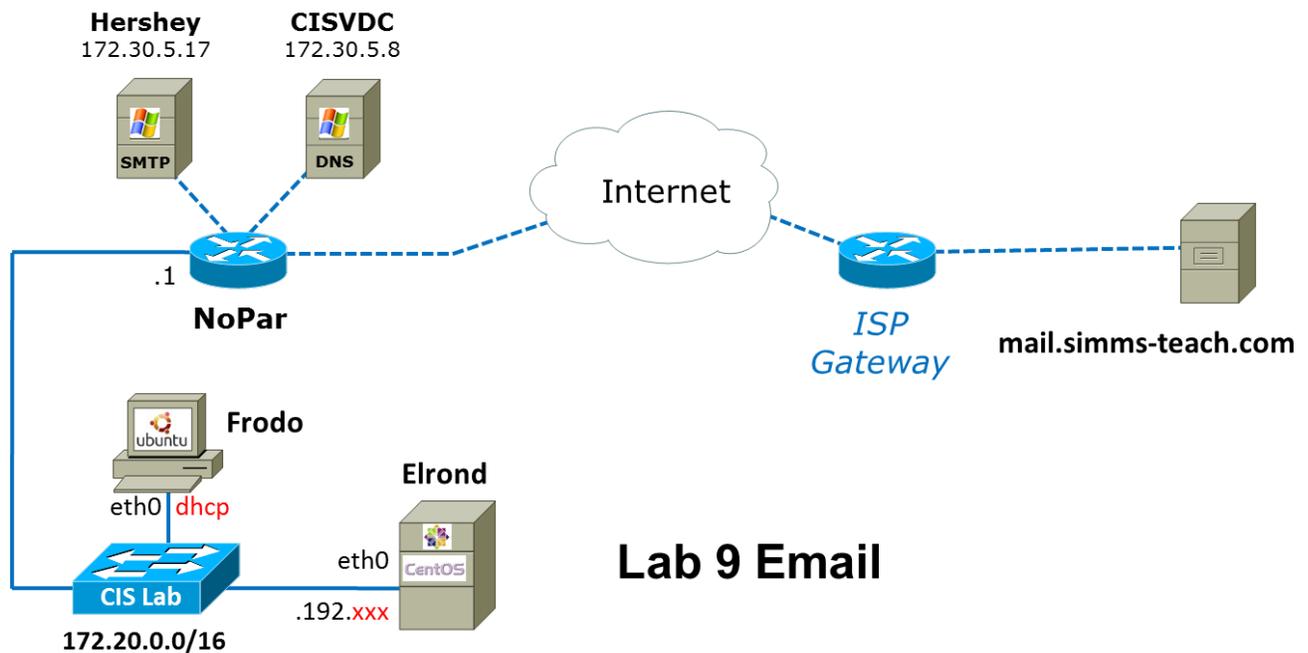
The purpose of this lab is to explore the ways client systems download their mail from mail servers that support POP3 and IMAP protocols.

There are also mail accounts set up for you on Hershey and at simms-teach.com that you can use.

**WARNING:** Be careful using the procedures below on your own personal email accounts. They will download the messages on your POP or IMAP server and may delete them from that server!

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

1. Direct communication with the pop3 or imap server
2. Thunderbird email program
3. fetchmail



## Lab 9 Email

.xxx is based on your pod number

## Supplies

- VMWare ESXi and vSphere Client
- 192 VMs: Elrond (CentOS) and Frodo (Ubuntu)

## 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://oslab.cabrillo.edu/forum/>

## Pre-configuration

- ❑ Read carefully the whole lab and make a custom network map and crib sheet of commands to use.
- ❑ Make a copy of the *lab09* text file in */home/cis192/depot* in your home directory on Opus.
- ❑ On Opus, use: **send-lab09-emails** to send some sample emails to the mail servers used in this lab.
- ❑ [optional] Revert VMs back to their Pristine snapshots. Starting fresh will allow you to practice the basic network setup configuration.

## 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)
- *Thunderbird Mail* (graphical email application)
- *fetchmail*

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

## Setup

1. Cable and configure Elrond as shown in the map above.
2. Use the default CentOS firewall to start.
3. Your */etc/resolv.conf* should contain:  
**search cislab.net**  
**nameserver 172.30.5.8**

4. Verify you have Internet Access.
5. Install the telnet client: **yum install telnet**
6. Install the MTA with: **yum install sendmail sendmail-cf**

### Part 1 - Telnet conversation with a POP server

On Elrond you will connect to the POP service on Hershey. Your account on Hershey has the same username and password as your username and original password on Opus.

1. On Elrond, ssh into Hershey (using your Opus username) and read your mail with the mail command. Quit mail and **exit** Hershey back to Elrond.
2. On Elrond, connect to the POP service on Hershey using:  
**telnet hershey 110**
3. Use the following POP commands to locate and read the "Plan to improve English spelling" message.  
`user <your192username>`  
`pass <password>`  
`list`  
`retr <message number>`  
`quit`

### Part 2 - Telnet conversation with an IMAP server

On Elrond you will connect to the IMAP service on simms-teach.com. Your mail account username on simms-teach.com is based on your username on Opus. Use the funny password.

1. On any browser, browse to <http://webmail.simms-teach.com/> and login using your Opus username and the funny password. Read your mail then sign out.
2. Connect to the IMAP service on simms-teach.com using:  
**telnet mail.simms-teach.com 143**
3. Use the following IMAP commands to read the "Spelling Checker" message (both headers and body text).  
`a001 login <your192username>@simms-teach.com <password>`  
`a002 list "" "*"`  
`a003 select INBOX`  
`a004 fetch <message number> full`  
`a005 fetch <message number> body[text]`  
`a006 logout`

### Part 3 - Read mail using a local MUA

In this procedure, we will configure the Thunderbird email program on Frodo to read your mail on simms-teach.com.

1. Login as cis192 on Frodo and use the graphical desktop.
2. Configure your screen resolution to 1024x768.
  - Dash > *System Settings* (gear and wrench icon)

- Choose *Displays* in Hardware section
  - Select 1024 x 768 and click *Apply* button
  - Click *Keep this configuration* button
3. Startup **Thunderbird Mail** (Dash > Home icon > Thunderbird Mail).
  4. Select *Create a new account*.
  5. Click the *Skip this and use my existing email* button.
  6. Enter your full name, *<your192username>*@simms-teach.com and password.
  7. Click *Continue*.
  8. Click *Manual Config* button and change imap and smtp server hostnames to mail.simms-teach.com
  9. Click *Re-test*, then click *Done*.
  10. Click the new inbox on the left under the account just created.
  11. You should now be viewing your mailbox on the server!
  12. You will be able to read your incoming mail but not send any outgoing mail with the security configured on the simms-teach.com server.
  13. Question: Are these messages downloaded from the server, or do they remain in your server mailbox?

#### Part 4

In this final step, we will install the fetchmail package on Elrond and configure fetchmail to download our mail on Hershey 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.

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

1. From Opus, use **mail \$LOGNAME@hershey** to send yourself a message on Hershey. It can be anything you like.
2. On Elrond as root use: **yum install fetchmail mailx**
3. On Elrond as cis192 create a hidden configuration file named *.fetchmailrc*, in cis192's home directory. This file is used by fetchmail to connect to your pop3 server like the following example:
 

```
[cis192@pNN-elrond ~]$ cat .fetchmailrc
poll hershey protocol pop3
username <your192username>
password <password>
keep
```
4. This configuration file must be in your home directory and should be made readable by you only, for obvious security reasons:
 **chmod 400 .fetchmailrc**
5. You are now ready to download your new mail messages:
 **fetchmail**  
 (you can ignore the certificate and localhost connection warnings)
6. When fetchmail has completed, use the Linux **mail** command to read your messages on your local machine! Save your custom message using the *s* (save) command to a file named *custom*.

7. 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.

- The telnet conversation you had with the Hershey POP server to login and read the "Plan to improve English spelling" message.
- The telnet conversation you had with the simms-teach.com IMAP server to login and read the "Spelling Checker" message.
- A subset of your Thunderbird mail configuration for the cis192 user. Use: **grep -r 'fullName\|username\|smtp' .thunderbird/ | grep prefs** to collect.
- The *.fetchmailrc* file
- The *custom* file. This should be your custom message you download from Hershey to Elrond using fetchmail, viewed and saved with the mail command.

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.

**cp lab09 ~rsimms/turnin/cis192/lab09.\$LOGNAME**  
and email your map/crib sheets to **risimms@cabrillo.edu**

### Grading rubric (30 points)

- 2 points for correct submittal with complete header
- 4 points for a network map/crib sheet
- 3 points for the telnet POP conversation with Hershey
- 3 points for using telnet to read correct message & headers on Hershey
- 3 points for the telnet IMAP conversation mail.simms-teach.com
- 3 points for using telnet to read correct message & headers on simms-teach.com
- 3 points for a correct Thunderbird mail configuration for simms-teach.com
- 3 points for a correct *.fetchmailrc* file
- 3 points for sending custom email from Opus to Hershey
- 3 points for a downloaded (via fetchmail) custom email message showing all headers