

## CS78 Spring 2006

### Programming Lab 1: Email & You!

This lab is divided into two parts. In the first part, you will use the telnet application to manually send mail through an SMTP mail server. In the second part, you write a Java program that performs the same action. Please consult the K&R text book as well as the references I have listed at the end of this assignment to assist you in this lab. The concepts required for this lab are covered in the textbook if you have read up to chapter 2. Some smaller details may require you to examine some of the other listed resources.

### Part 1: Sending Email with Telnet

The purpose of this lab is to manually send yourself an email using SMTP. You should use the telnet application to do this. When doing this please telnet to the correct machine designated as the mail server for the domain, you can find out this by using HOST (or similar) and finding the MX record response (this record denotes the mail server associated with this domain name). Also be mindful you will need to use the correct port when using Telnet (listed in the K&R text book) and will need to follow SMTP correctly for the mail to be sent.

During this section you should do the following:

- 1) Use HOST (or similar) to perform a DNS query to find the MX record (which will indicate the mail server associated with the domain) for the Dartmouth CS department (use the domain name – *cs.dartmouth.edu*).
- 2) Use TELNET to establish a connection at the correct port at the machine given by the MX record.
- 3) Use this TELNET session to manually send yourself an email. Consult the K&R text book and the references listed in this assignment for guidance in this process. Send an email to yourself.

Hand in for this section a trace of your interactions with the command line and the email you received in you account as a result of performing this operation. To create the command line trace use whichever tool you are most comfortable with (you would already done a similar step in the homework 1 for question 13).

## Part 2: Sending Email with Java

In this second part you are required to write a simple java email client that will send an email using a socket connection and SMTP. Do not use any java package (such as the javax.mail package) that abstracts away direct socket programming. A simple command line driven application will be sufficient. However you have a reasonable amount of free license in the specifics of how you write this program. Please note that your program must do the following:

- 1) The execution of the program must cause a user interaction session in which the user is required to provide the program an email address, subject line for this email and the body message of the email. Any other necessary parameters required for the email to be send do not have to be provided by the user so you are free to hard code these values.
- 2) Your application must adhere to SMTP to the extent that an email is correctly sent to the destination. Essentially the program should automate the process you performed manually in part 1 of this lab.

Hand in the source code of the application and a command line trace of you using your program to send an email.

### **References:**

*“The Linux Documentation Project: Introduction to Linux: Networking”*

- [http://www.tldp.org/LDP/intro-linux/html/chap\\_10.html](http://www.tldp.org/LDP/intro-linux/html/chap_10.html), (please consult section 10.3.2 for an example of Telnet)

*“Trivial uses of Telnet”*

- [http://evolvedcode.net/content/doc\\_alttelnet/index\\_p5.asp](http://evolvedcode.net/content/doc_alttelnet/index_p5.asp)

*“DNS Oversimplified”*

- <http://www.rscott.org/dns/>
- <http://www.rscott.org/dns/mx.html>

Java Network Programming

- <http://java.sun.com/docs/books/tutorial/networking/overview/index.html>
- <http://java.sun.com/docs/books/tutorial/networking/sockets/index.html>