

CS 485/ECE 440/CS 585 Fall 2015 Lab 3

Due 11:59pm on Monday, 23 November 2015

Please send your submission for Lab 3 as a gzipped tar ball attachment to an email to “crandall@cs.unm.edu”. The subject of the email should contain both the strings “lab3” and “nets”. Do not submit your lab writeup to any other address, attach any files that are not the one single tar ball, or put any part of your lab submission in the text body of the email.

Refer to lab3setup.pdf for instructions on how to setup Lab 3. Lab 3 will be graded on your setup, not on whether your network is actually working, but you do need to get the network working (*i.e.*, be able to connect to all of your classmates) for Lab 4 so keep working at it.

The tar ball for Lab 3 should contain a single directory, with all files within that single directory. The tar ball should have your family name, student number, and the string “lab3.” For example, I may or may not post an example tar ball but mine would be named crandall-9-lab3.tar.gz. Your lab 3 submission should contain:

Three text files showing the configuration of each of your VMs:

crandall-9-lab3-showvminfo-moe.txt

crandall-9-lab3-showvminfo-larry.txt

crandall-9-lab3-showvminfo-curly.txt

(produced via “vboxmanage showvminfo moe > crandall-9-showvminfo-moe.txt” and likewise for larry and curly)

The following three files from your router VM:

/etc/network/interfaces

/etc/quagga/zebra.conf

/etc/quagga/ripd.conf

The output of these two commands, while logged in as root and in the “/”, i.e., root directory:

df -Th

du -sm *

Lab 3 is worth 100 points, based on the following rubric:

- 25 points for having a healthy amount of hard drive space, *i.e.*, being past the point where apt-get isn't working.
- 25 points for the configuration of the NICs for your router VM and other VMs (you shouldn't

have touched the configuration of the other VMs at all). For your router VM, there should be NO BANDWIDTH LIMITS for NICs 4 through 8, and NICs 4 through 9 should be UDP tunnels to connect to partners. 5 points off for each NIC that's not configured to connect to a partner.

- 25 points for the correctness of your ripd.conf and zebra.conf configurations. A change is that you MUST NOT be sending routing announcements out on your NAT interface (eth0) or either of your local interfaces (eth1 or eth2).
- 25 points for following the correct format of the tar ball. This is important, since I need to automate grading with 50+ students in the class.

You are expected to do your own work. From modifying your virtual environment to producing any of the files in the tar ball, for all phases of this project you should do your own work. Any instance of not doing your own work will be considered cheating. If you're not sure whether something will be considered cheating or not, ask me before you do it. You are encouraged to discuss the assignment with your classmates at a high level and work closely with your partner on the lab. Exchanging details about specific configuration issues or solutions to specific setup problems is okay. Writing the source code for your partner or allowing them to write yours is NOT okay. As a reminder of the course policy, if you cheat on any assignment in this class including this assignment (cheating includes, but is not limited to, representing somebody else's work as your own or fabricating files to make it look like you completed the assignment) you will receive an F in the class.

To get the output of “df -Th” and “du -sm *”, first get a root shell via “sudo su -” and then change to the root directory via “cd” or “cd /”. You can redirect the output into files via:

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df -Th > /tmp/dfThoutput.txt
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du -sm * > /tmp/dusmoutput.txt
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Your “du -sm” output should have entries for the typical subdirectories found in the root directory, e.g., boot, var, etc, home, bin, etc.