

CSCD 330-040 Computer Networks

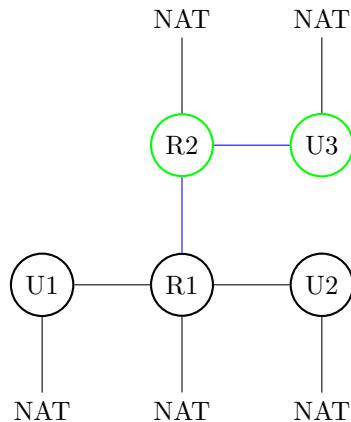
Lab 9, VM networking 2 - Due, June 9, 2025

June 6, 2025

Overview:

Today we will create 2 new virtual machines and network them to the machines we previously networked in lab 8.

They'll have the following topology with additions depicted in green (nodes) and blue (host-only networks):



Specifics:

1. Clone your base VM 2 times.
 - 1 new router (R2).
 - 1 new end node (U3).
 - Use host-only networks to connect the machines as described in the above Overview diagram.
2. Make sure all your configurations persistent across reboots.
3. Make sure all traffic to/from the set (S) U1,U2 and U3 go through the necessary routers.
 - Test with a `traceroute` from U1 to U3 and from U1 to U2.

Turn in file:

Use the naming convention `lab9_turnin_MYNAME.tar.gz`. Where the contents are your pcap and PDF file. This is the file you will turn in.

Reminder:

This is an **individual assignment**. I want to see what you know, not your neighbor.

What to turn in:

1. A **pcap** described below.
2. Your netplan configurations for all machines.
3. A PDF with the following:
 1. A figure/diagram of your network topology with **every interface labeled**.
 - Both the interface name and IP address.
 2. A traceroute from U1 to U3 (screenshot or pipe the output to a file).
 3. A traceroute from U1 to U2 (screenshot or pipe the output to a file).
 4. A list of the MAC addresses your packet traverses when you ping U3 from U1.
 - I'll also need evidence as to why you think these are the correct MAC addresses.

Your tar file must contain a **pcap** file of U1 pinging U3 through R1 and R2. R1 or R2 may be the machine where **tcpdump** is executed but be sure to specify which machine the **pcap** was taken from in your write up.