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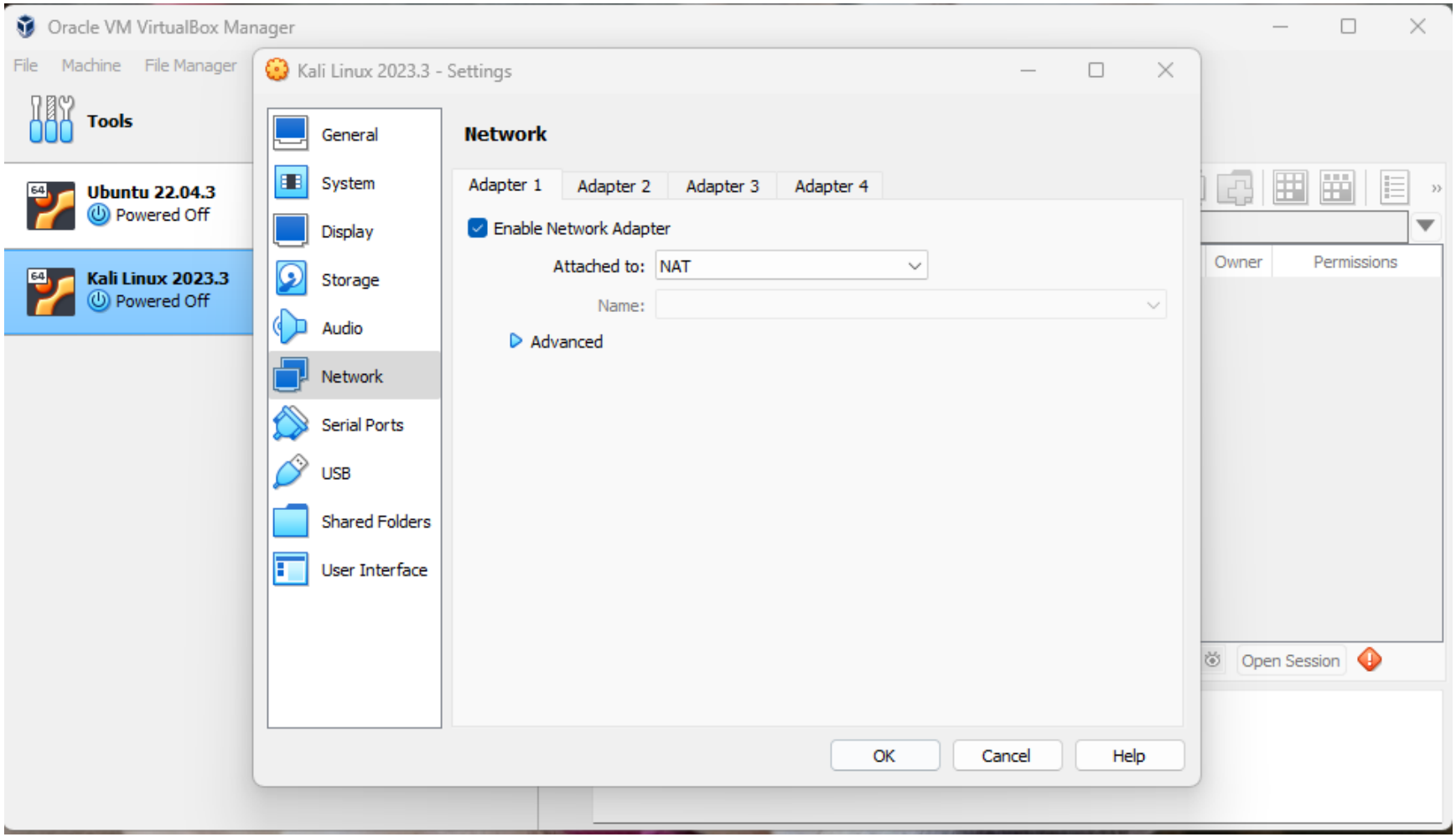
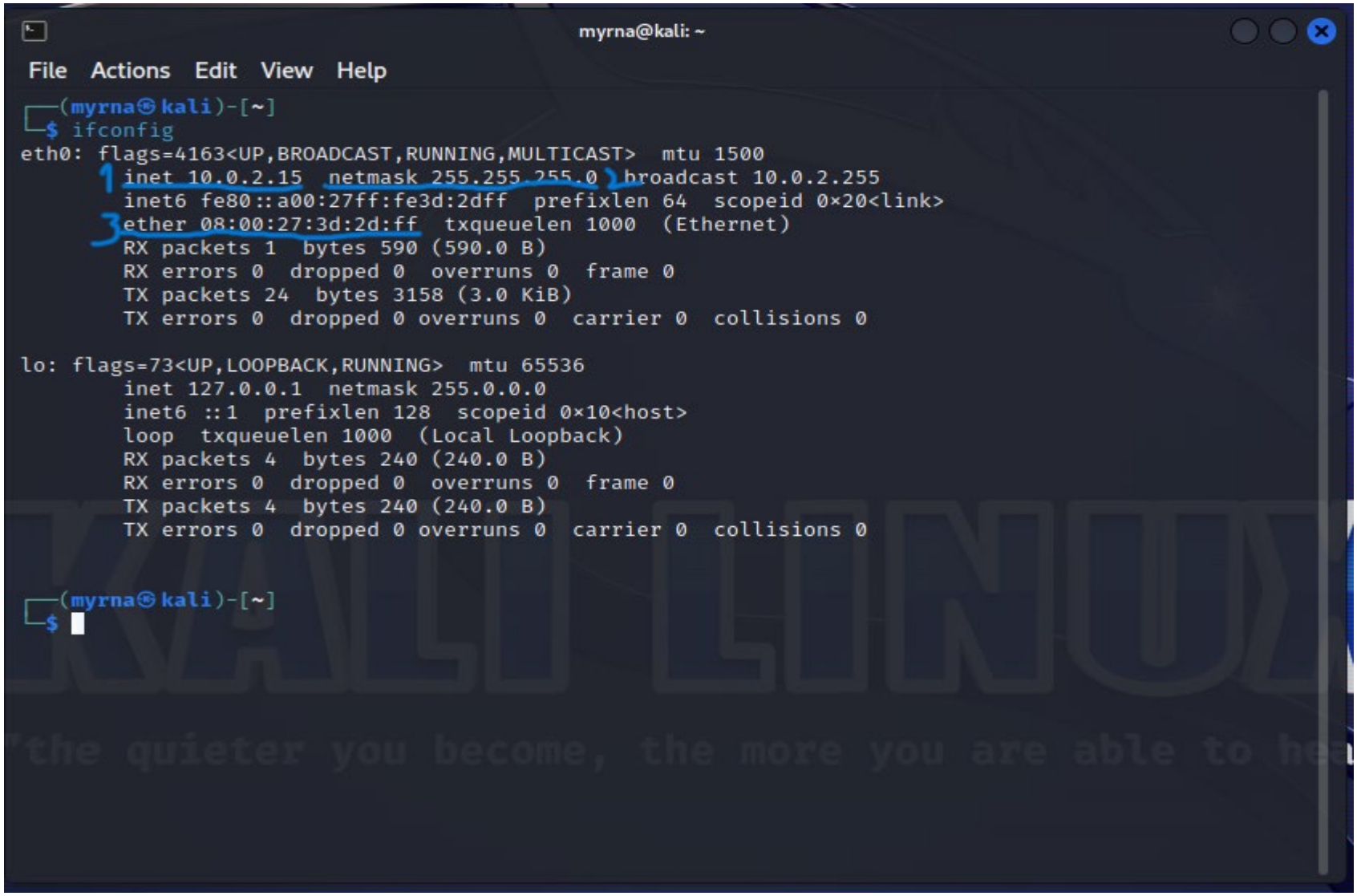
CYSE 270_20306

11/19/2023

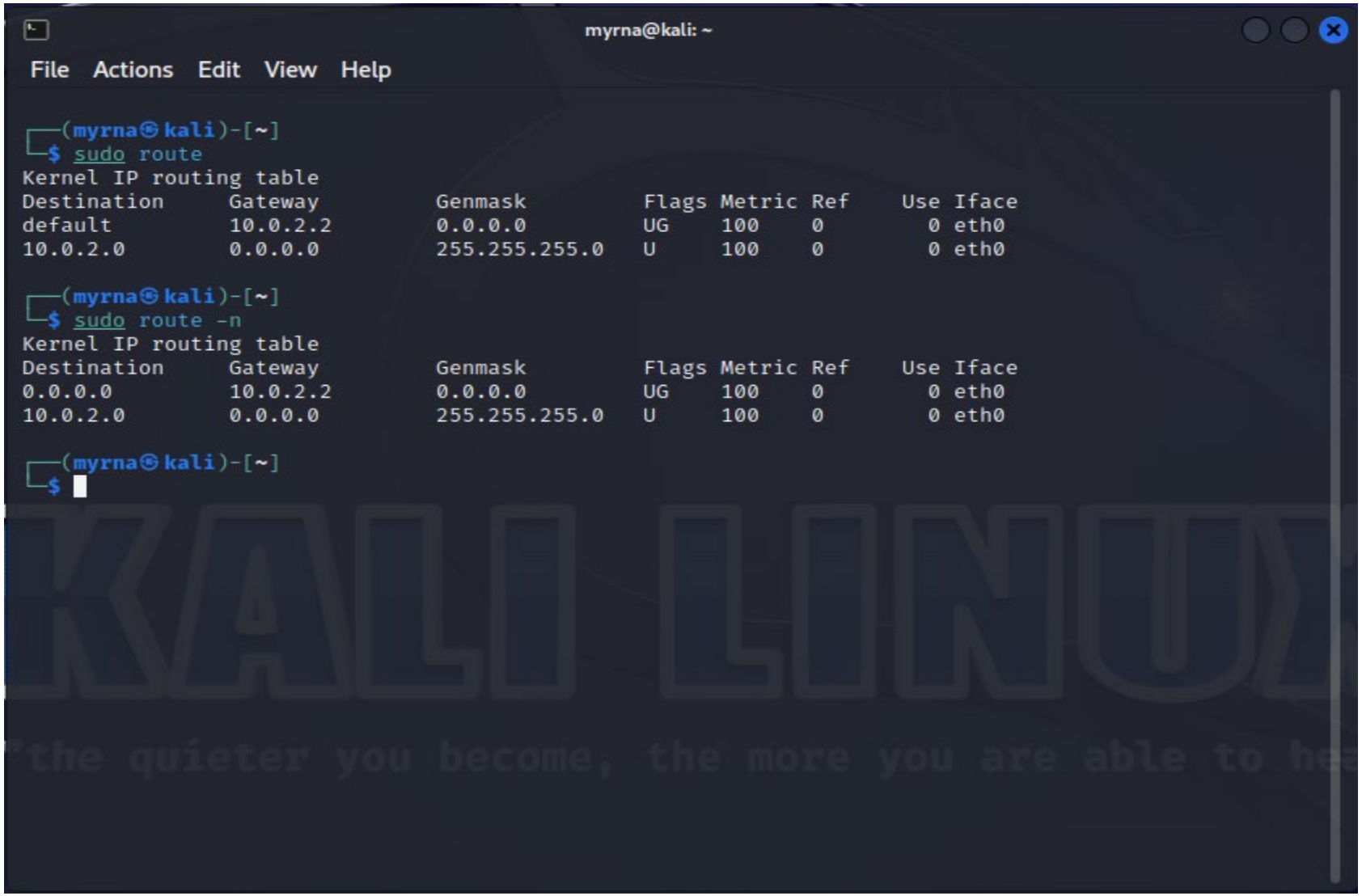
Task A: Explore network configuration. Pre-Step: Connect VM in NAT mode.



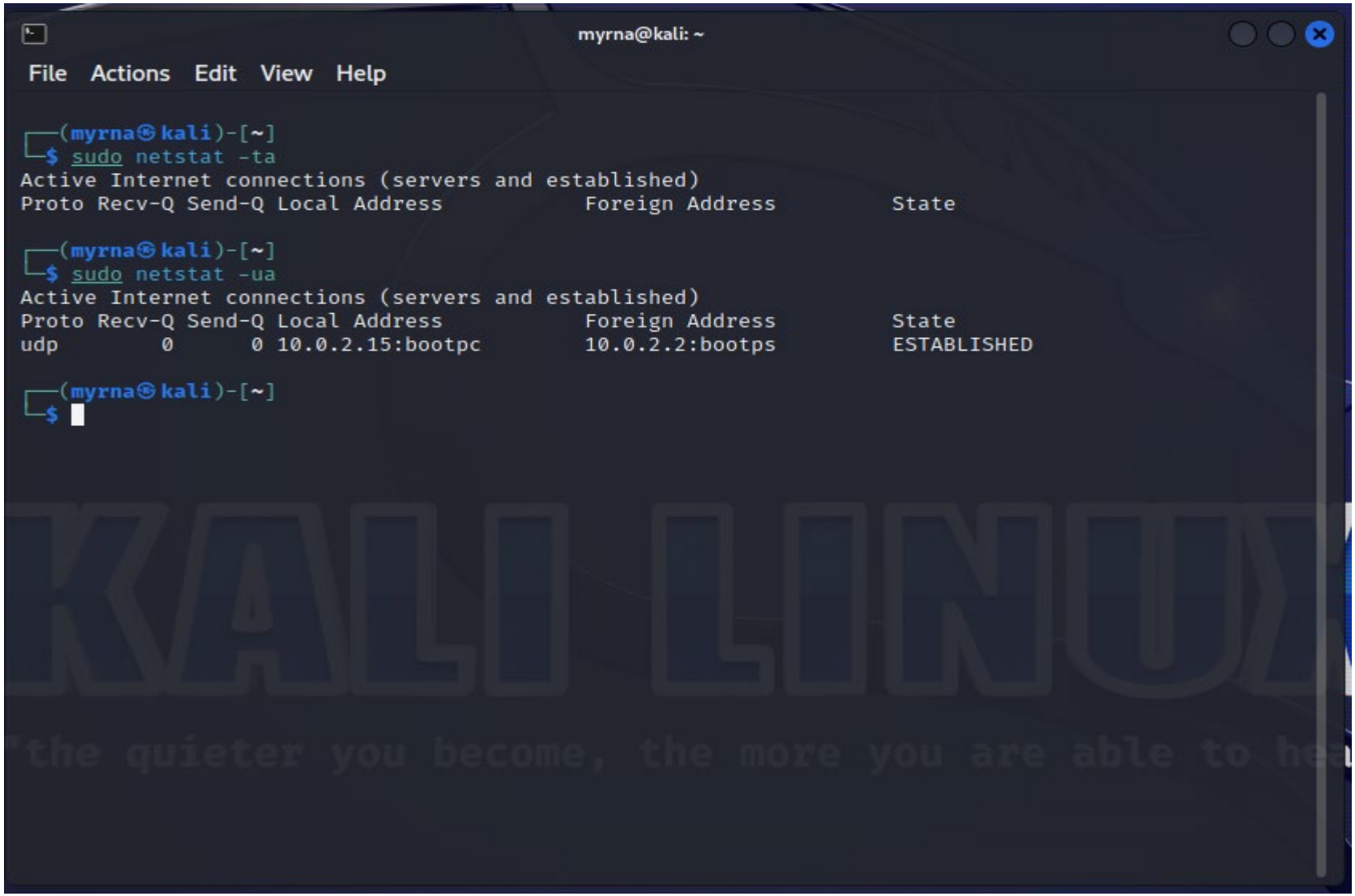
Step 1: Using **ifconfig** we can display the network current configuration. 1. IP address, 2. Network mask, 3. MAC address.



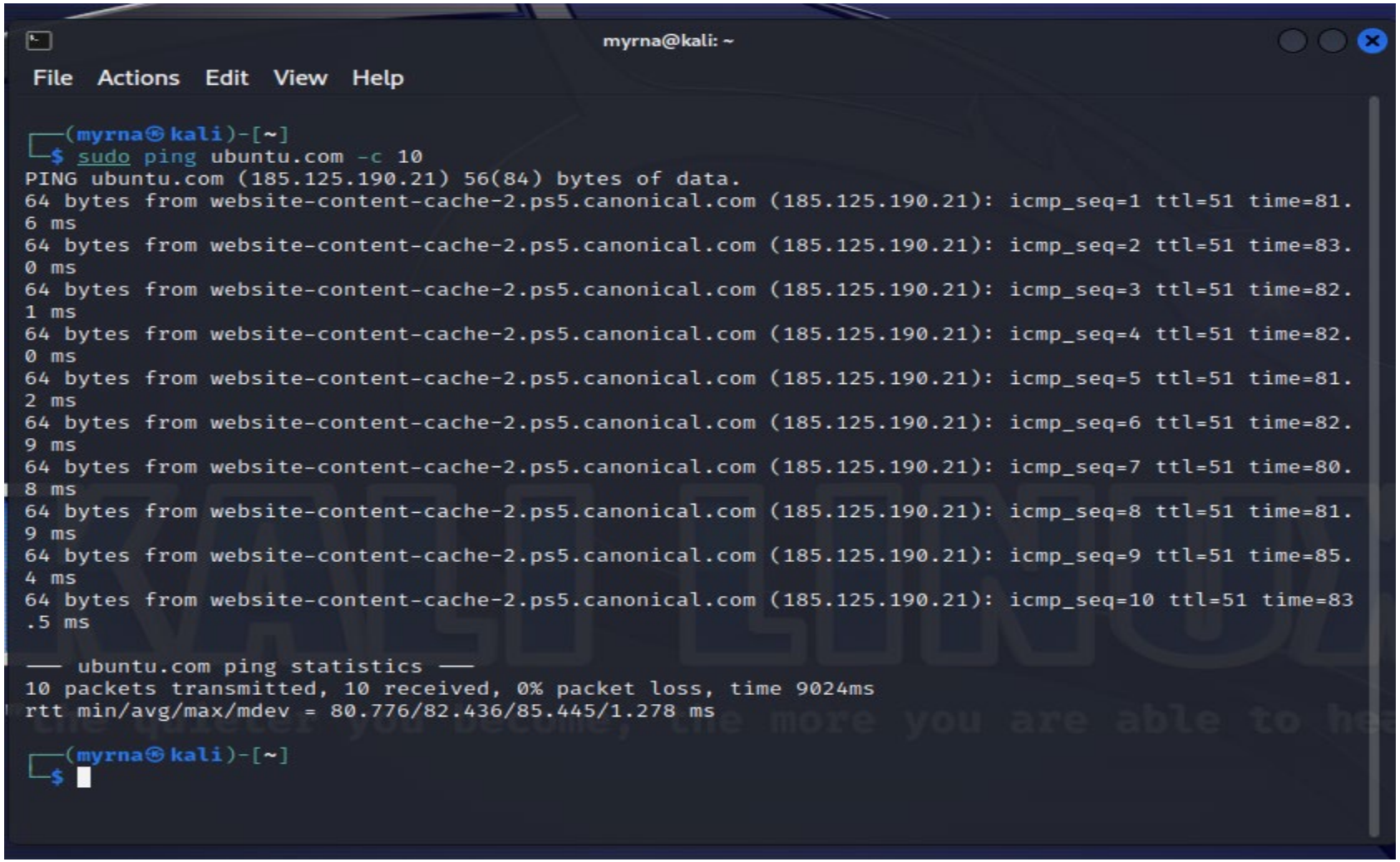
Step 2: Using **sudo route** or **sudo route -n** we can see that it shows the current routing table. The only difference is by using route -n you can see that the default destination to 0.0.0.0 ip v4 address.



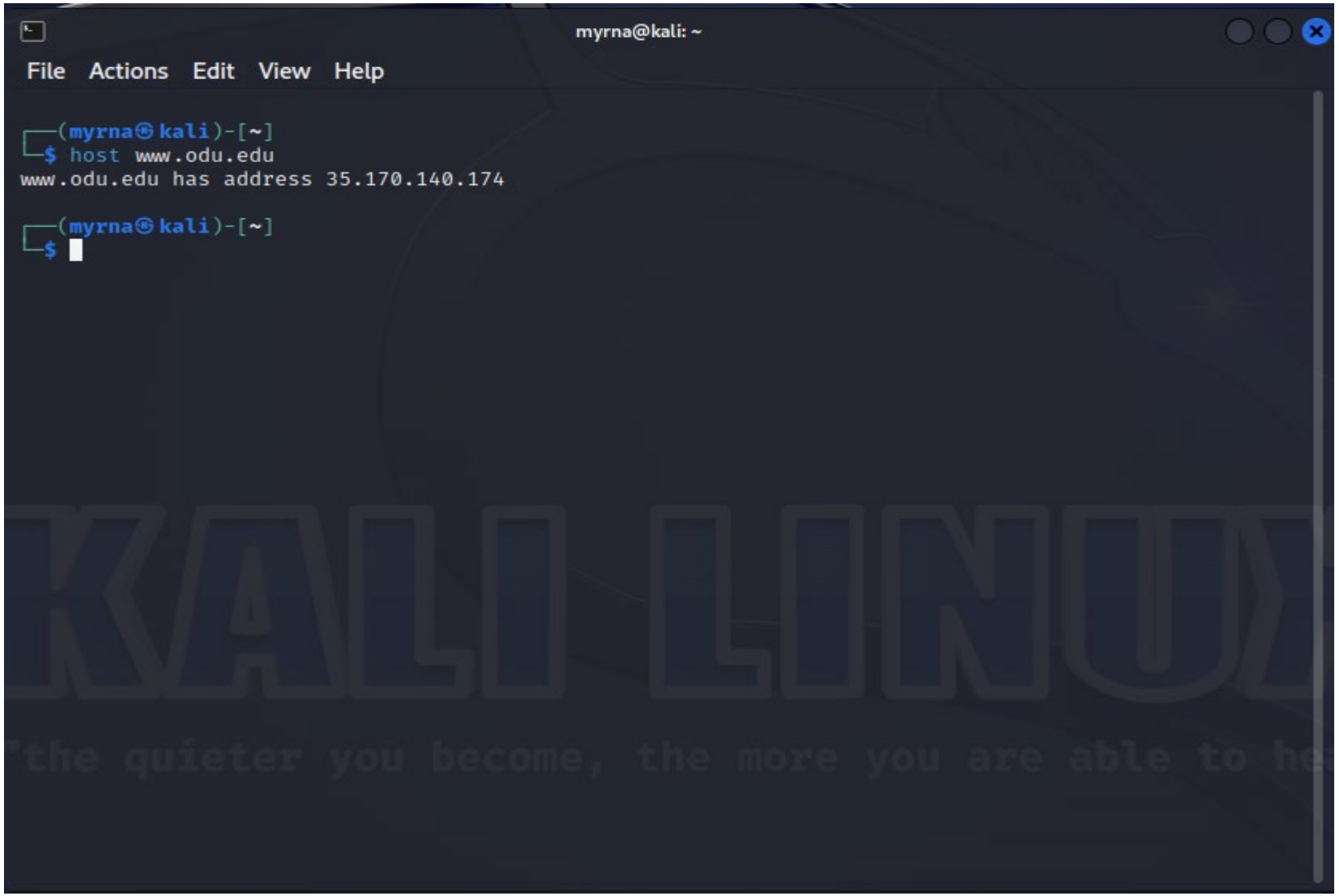
Step 3: Using sudo netstat -ta to list current TCP connections. (Please note my connection is at my work in another university, I do not have TCP connections at this moment.) By using sudo netstat -ua list UDP connections showing my establish connection.



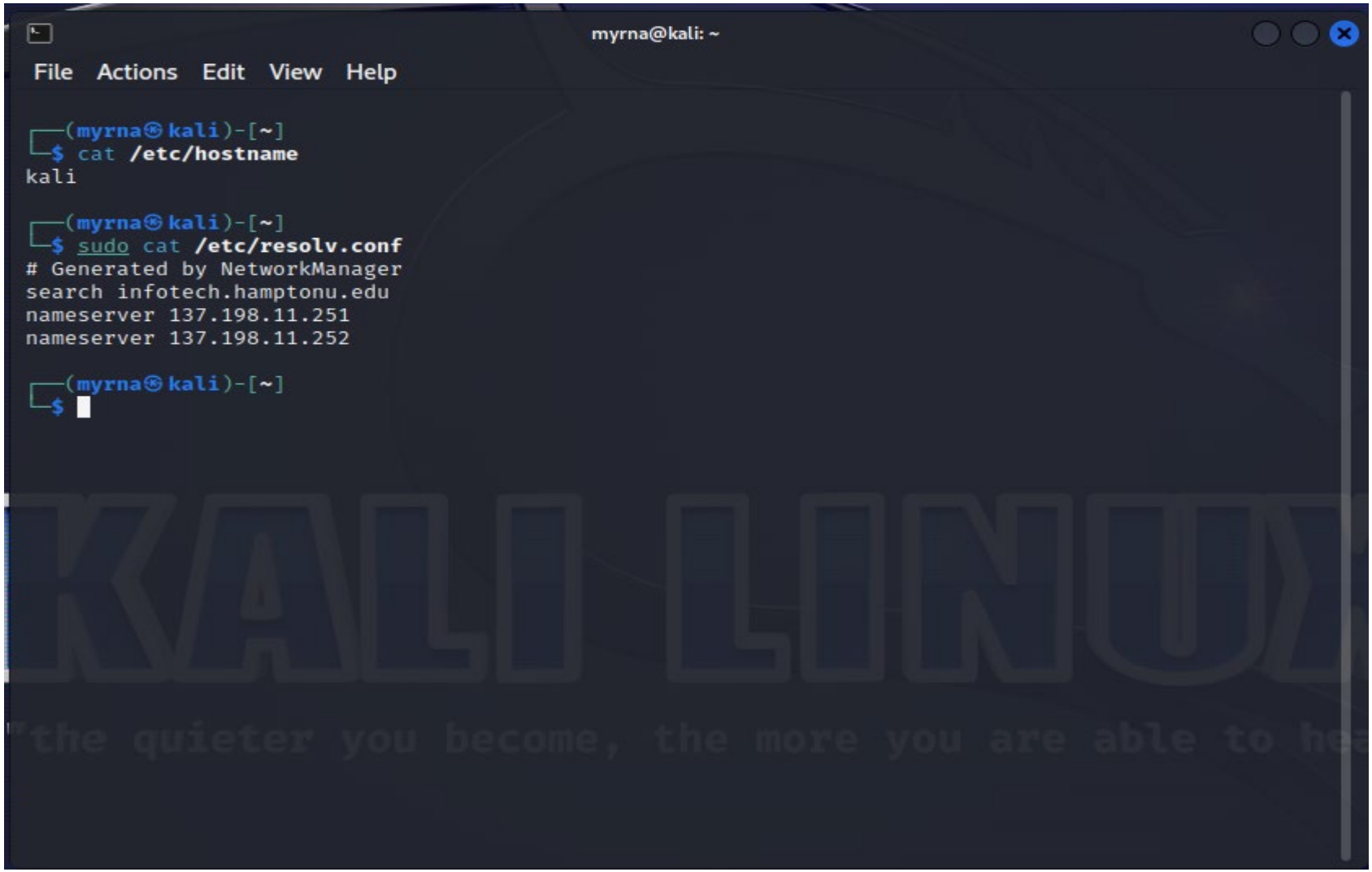
Step 4: Using **ping ubuntu.com -c 10**. By using flag -c 10 we specified 10 ping requests. The connection was well and there was no packet loss.



Step 5: The command **host www.odu.edu** show us the DNS query for www.odu.edu with address 35.170.140.174.

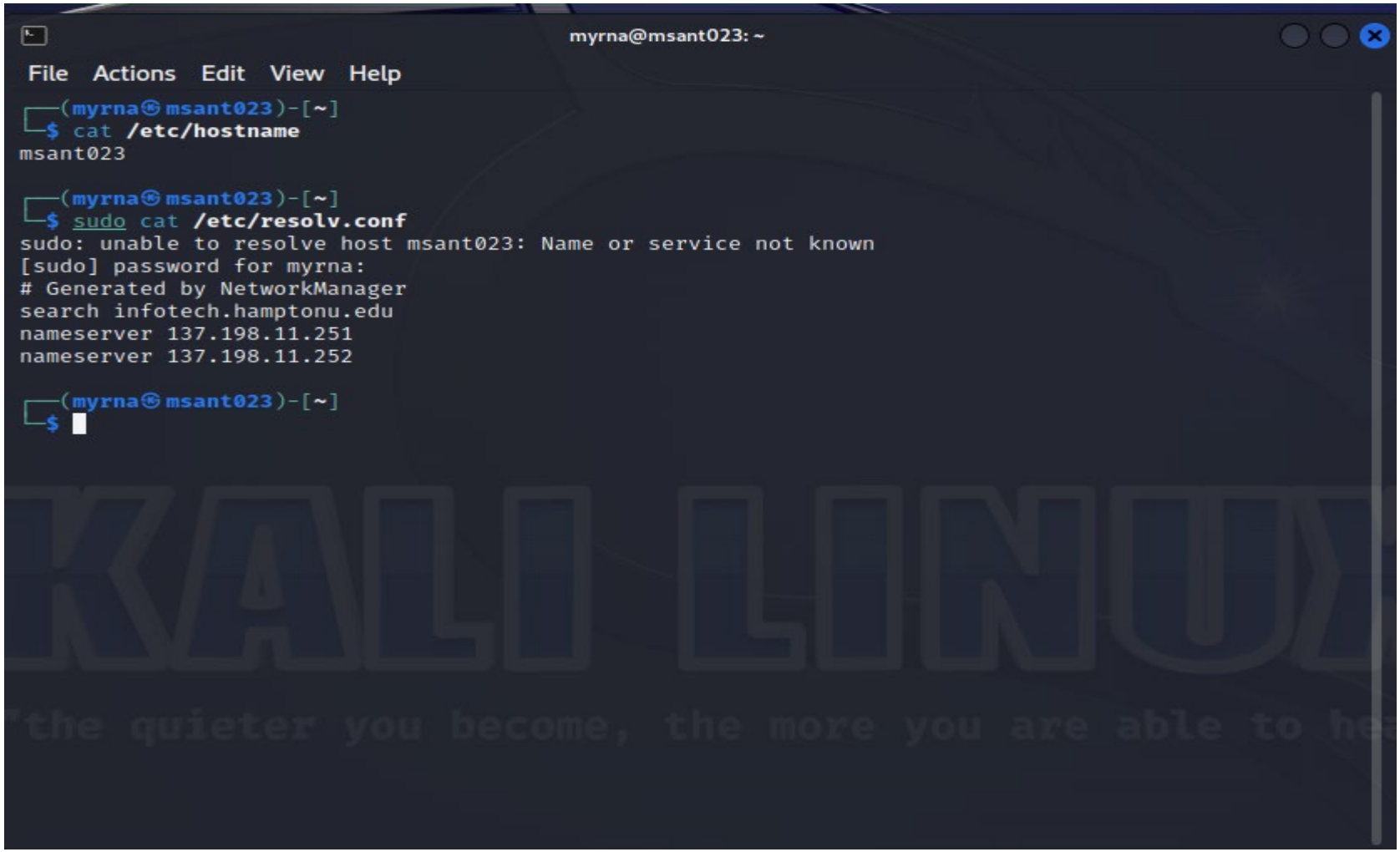


Steps 6&7: 6) Using **cat /etc/hostname** it shows us the content of the file that contains the system's hostname. 7) **Using sudo cat /etc/resolv.conf** display the content of the file that contains the DNS servers for this system.



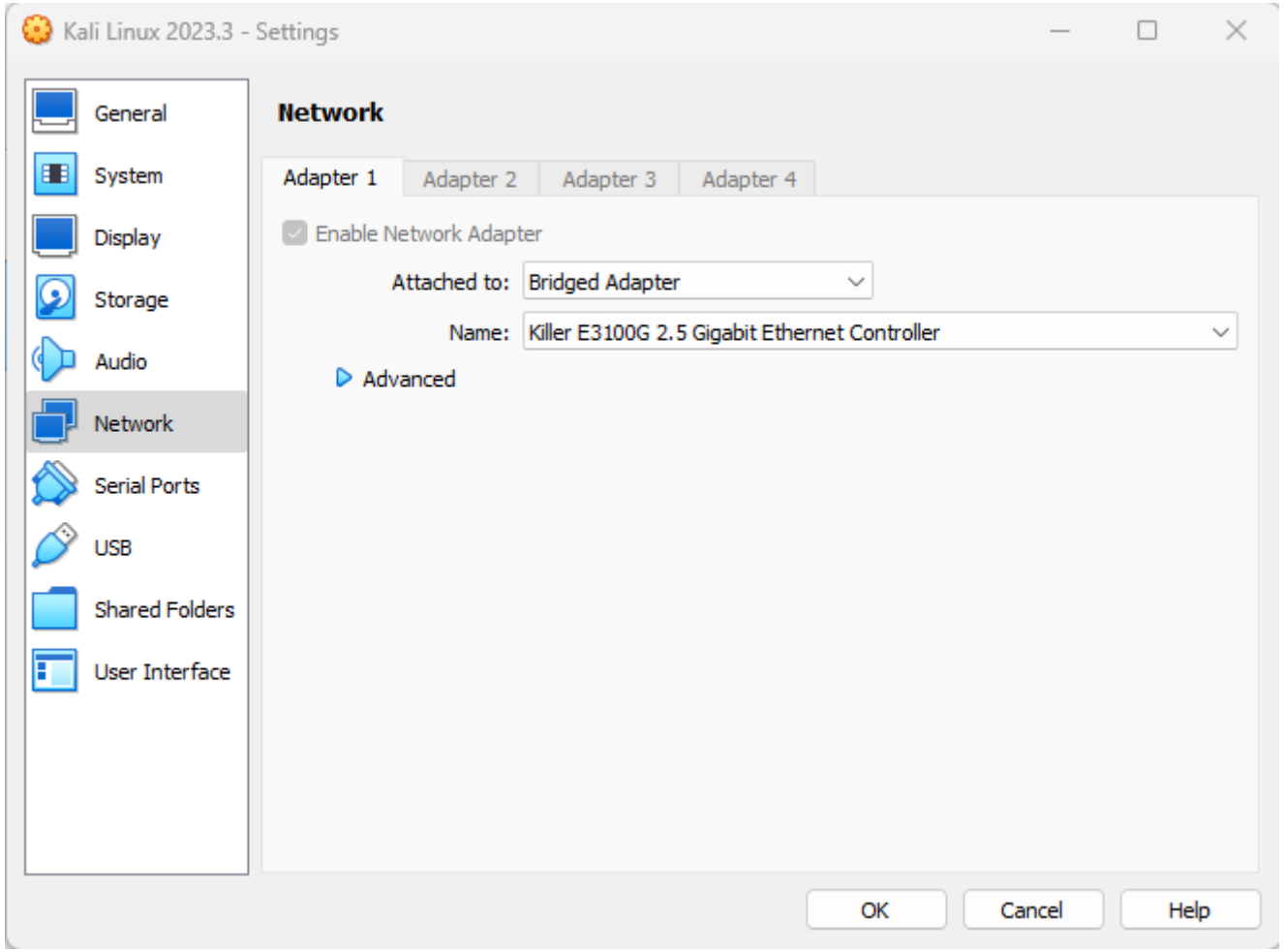
Step 8a: Using **sudo hostnamectl set-hostname msant023**, which will change the hostname permanently.

Step 8b: Restarting the system and using cat /etc/hostname shows the permanent change of the first part of step 8.

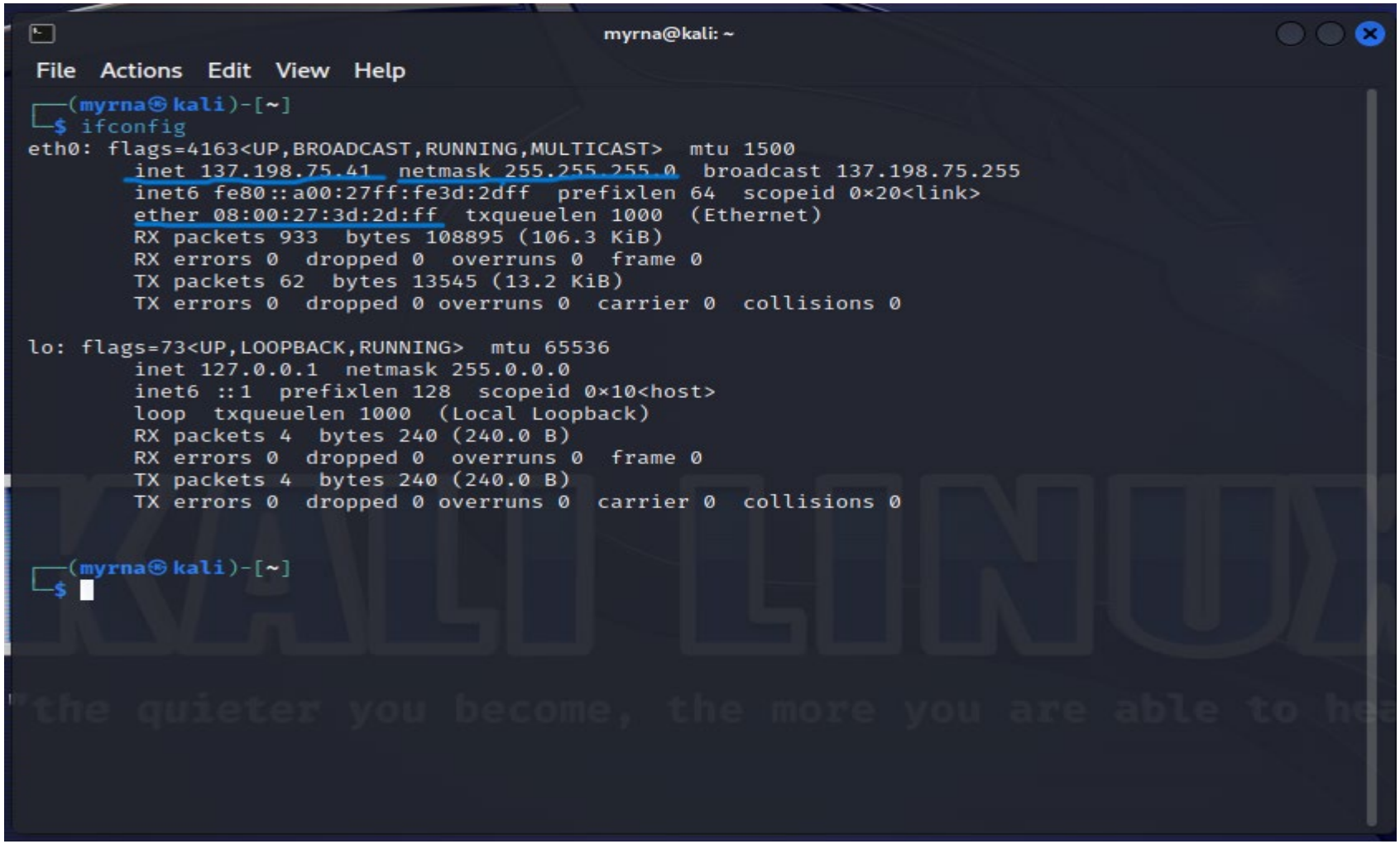


Task B: Different Network Setting

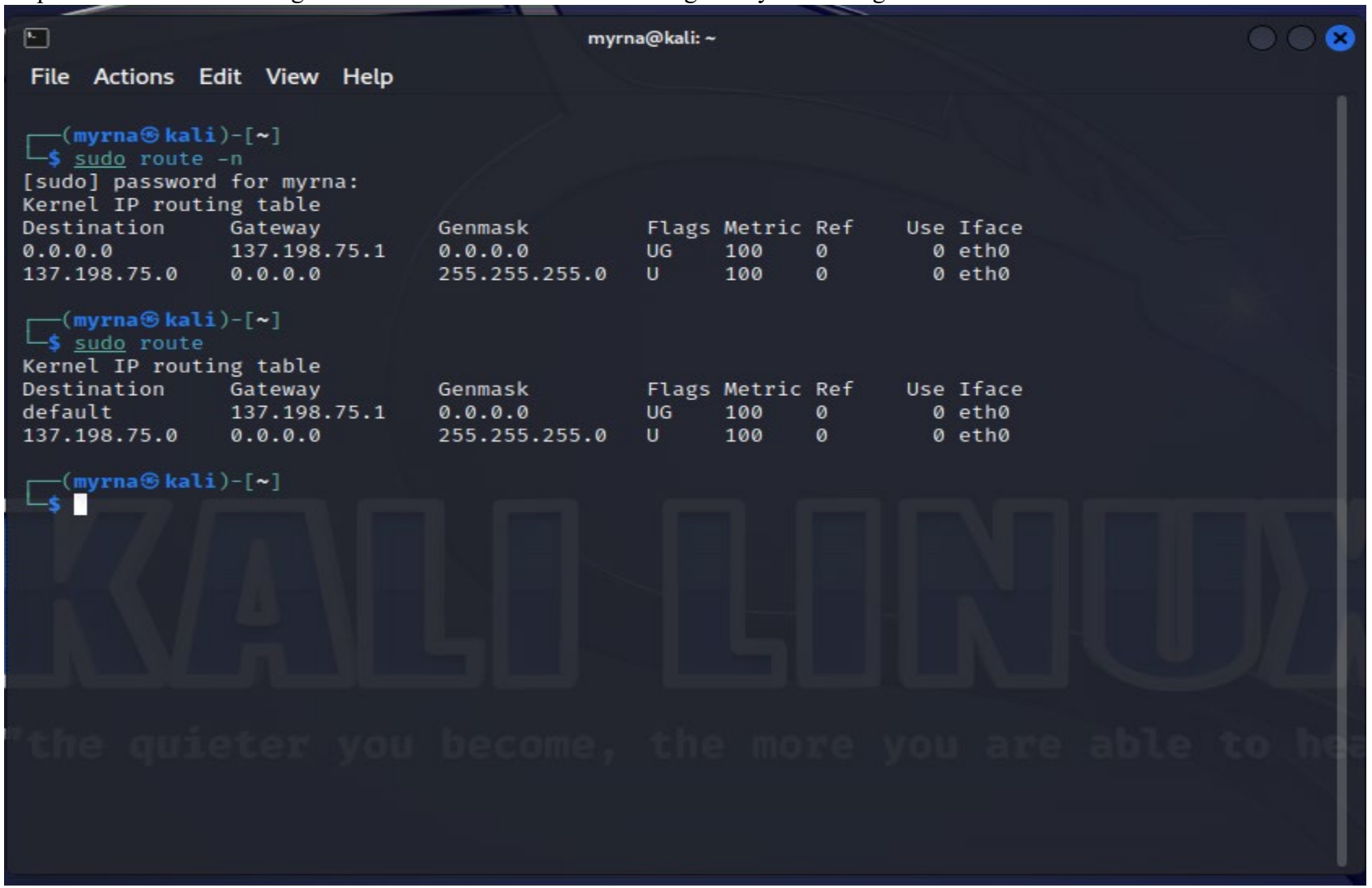
Step 1: Change NAT to Bridged Adapter.



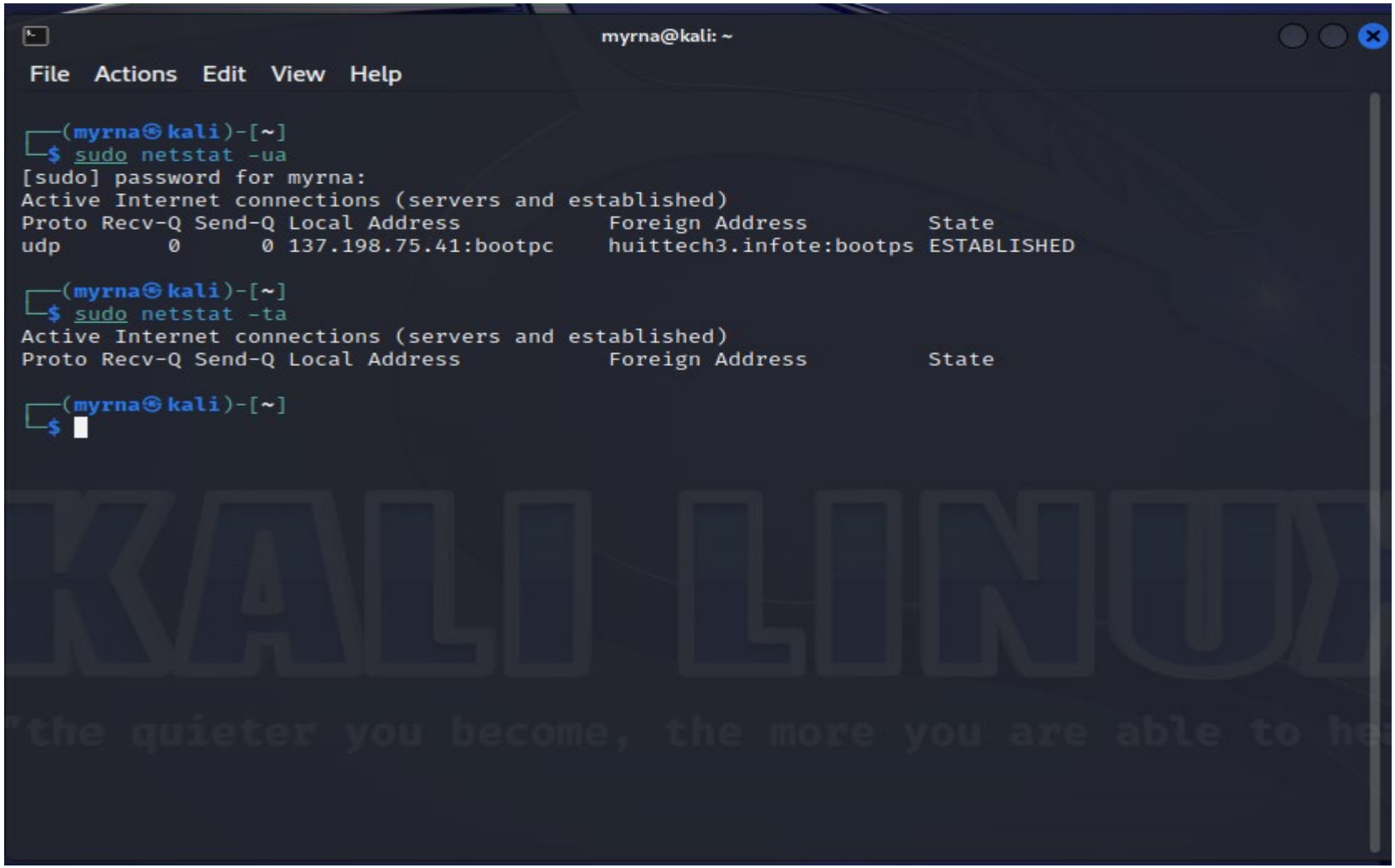
Step 2a: The IP address change from 10.0.2.15 to 137.198.75.41, while netmask and MAC addresses stay the same.



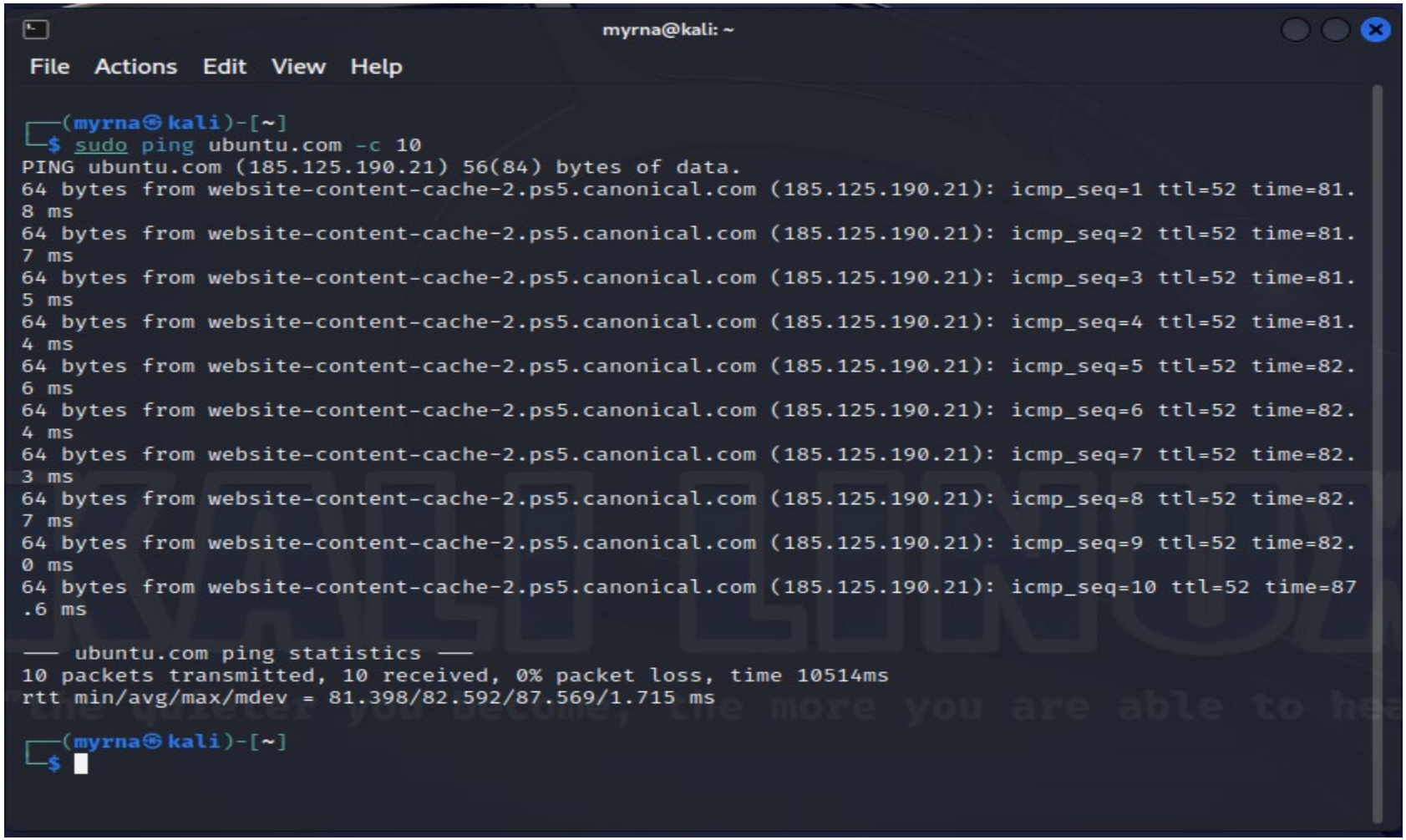
Step 2b: Destination 2 change to 137.198.75.0 from 10.0.2.0 and gateway in 1 change from 10.0.2.2 to 137.198.75.



Steps 2c: Both times connections are UDP. But local address for Task A is local address 10.0.2.15:bootpc and foreign address 10.0.2.2:bootps. With the Bridge Adapter, local address changes to 137.198.75.41:bootpc and foreign address is HUITtech3.infote:bootps.



Step 2d: This information remained the same in both tasks.



Step 2e-g: Steps 5 to 7 remained the same.