# Procedure to enable internet over USB when the USB interface is not showing up.

**1.Host Settings.**

1.1. Open the file in the host terminal using the following command:

**sudo vi /etc/sysctl.conf**

Inside this file, uncomment the following line. If the line does not exist, add it: **net.ipv4.ip_forward=1**


Figure 1.1. sudo vi /etc/sysctl.conf(Host)

**2.Target settings**

2.1. Login into the target using username:debian Pwd:temppwd

2.2. In the target terminal also open the file **sudo vi /etc/sysctl.conf**
inside this file uncomment this line/ if this line will not exits add this line. **net.ipv4.ip_forward=1**

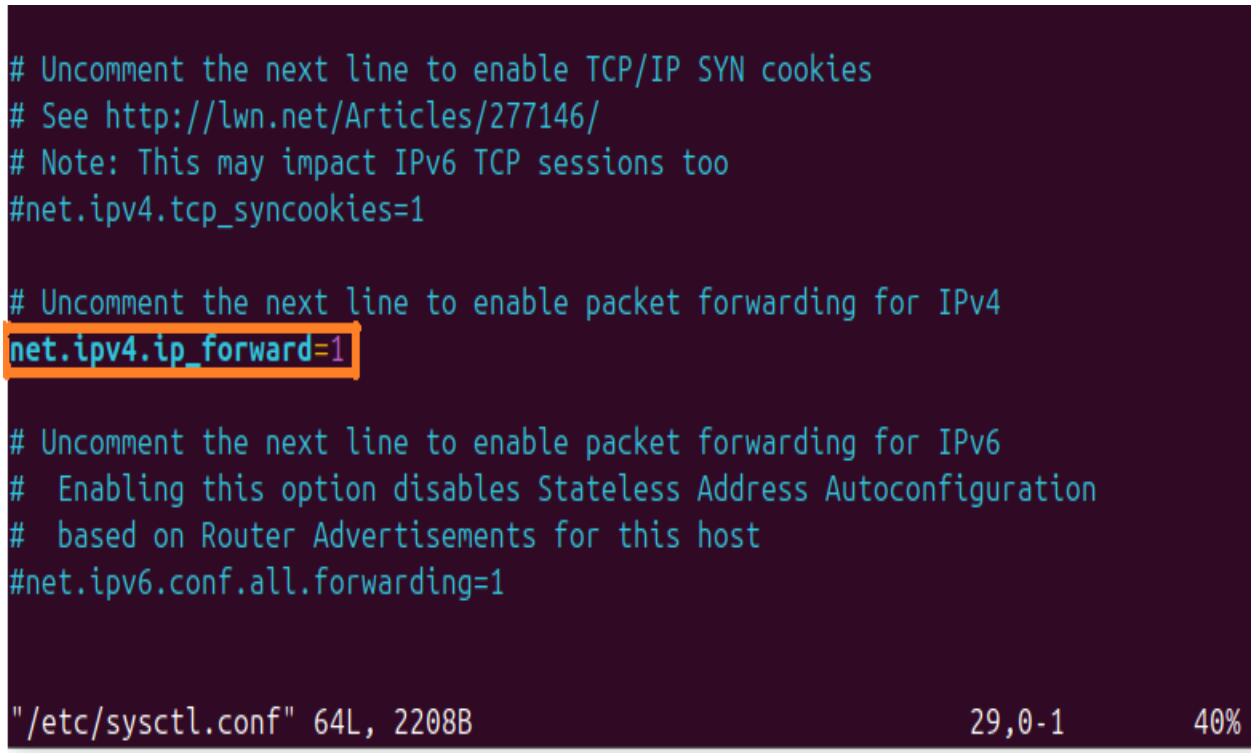


Figure 2.1. sudo vi /etc/sysctl.conf(target)

2.3. then execute the command **ifconfig** (as shown in the Figure 3). in the target.

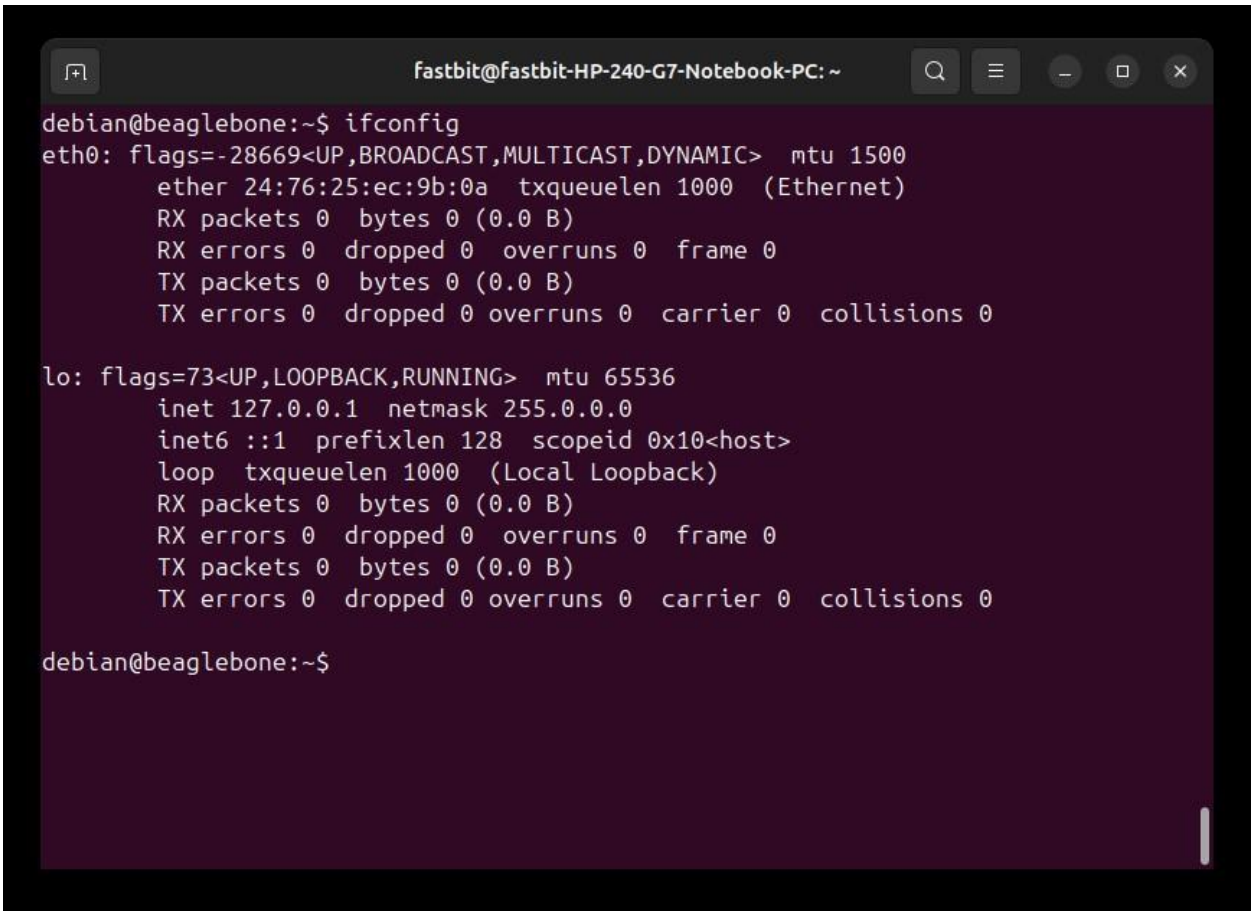


Figure 2.3. ifconfig

2.4. Execute the following commands. After executing them, the usb0 interface will be displayed.

- **sudo -s**
- **modprobe g_ether**
- **ifconfig usb0 192.168.7.2 up**
- **ifconfig**

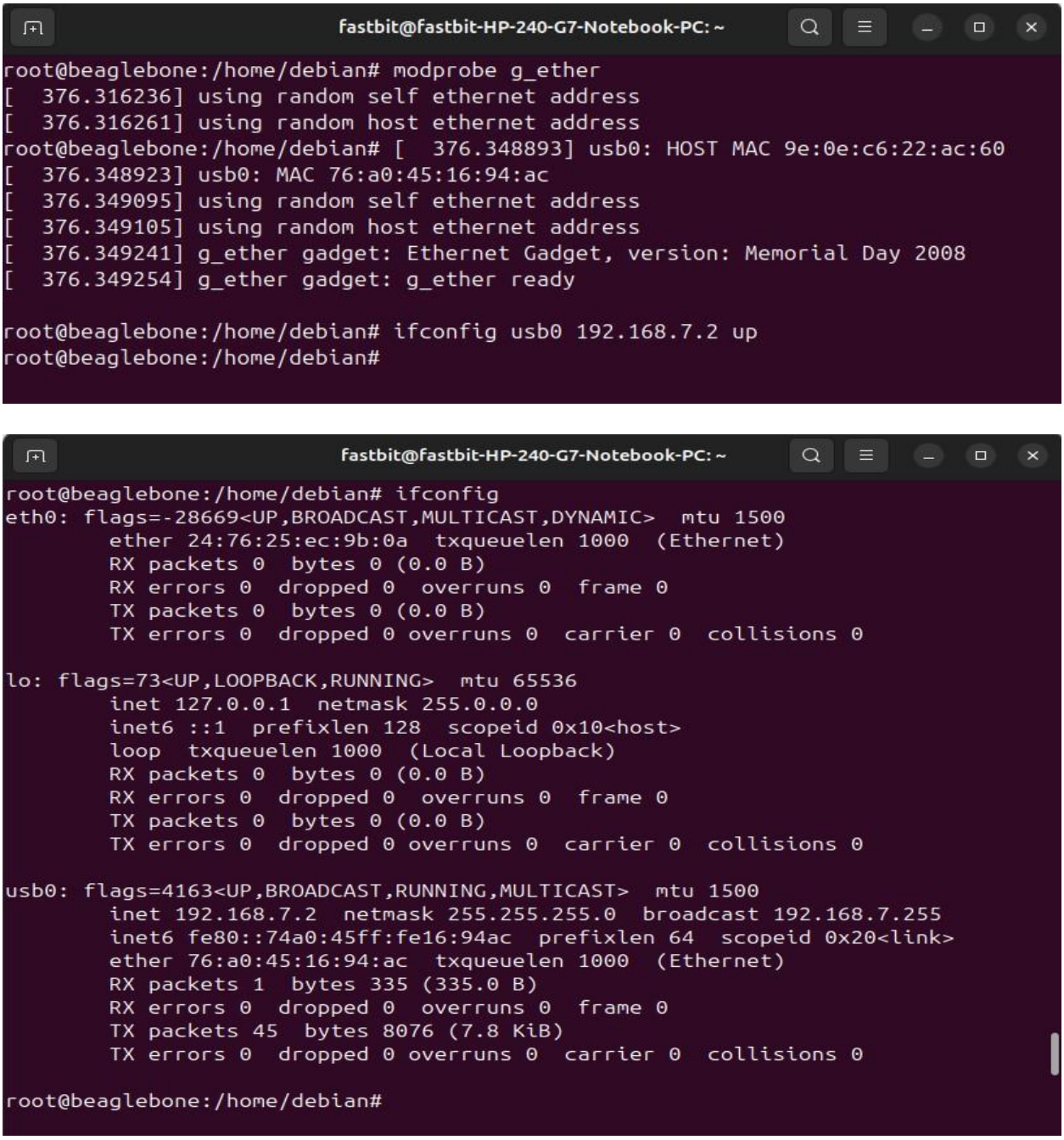


Figure 2.4. usb0 interface enumeration

2.5. Edit your vi /etc/resolv.conf as shown in Figure 3.

Text:
**Add nameserver 8.8.8.8**
**Add nameserver 8.8.4.4**
save and exit.

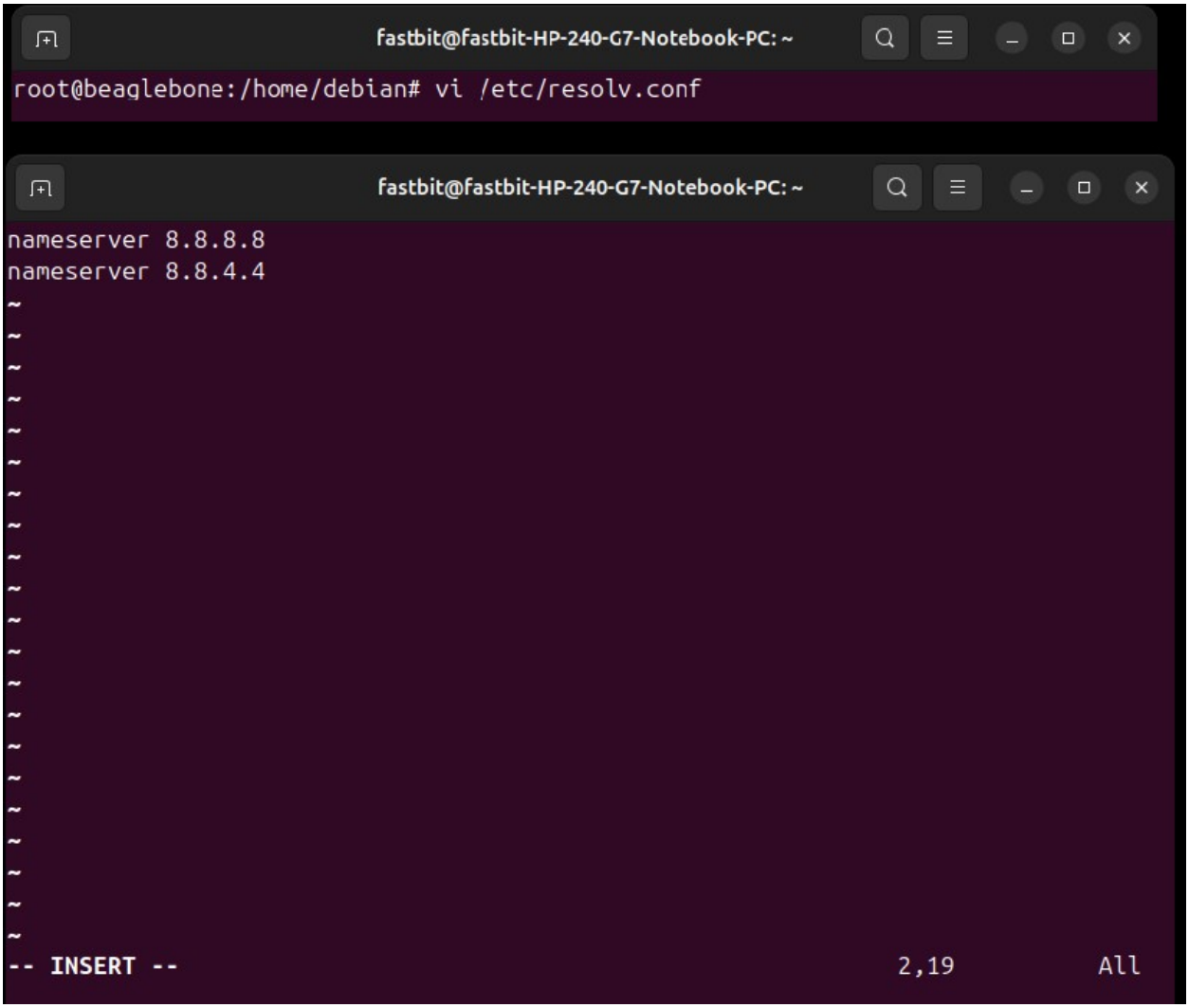


Figure 2.5. resolv.conf entry

2.6. Edit vi /etc/network/interfaces file and add as shown in the Figure 4, save and exit
Text:

**# Ethernet/RNDIS gadget (g_ether)**
**# Used by: /opt/scripts/boot/autoconfigure_usb0.sh**
**iface usb0 inet static**
**address 192.168.7.2**
**netmask 255.255.255.0**
**network 192.168.7.0**
**gateway 192.168.7.1**
**dns-nameservers 8.8.8.8**
**dns-nameservers 8.8.4.4**

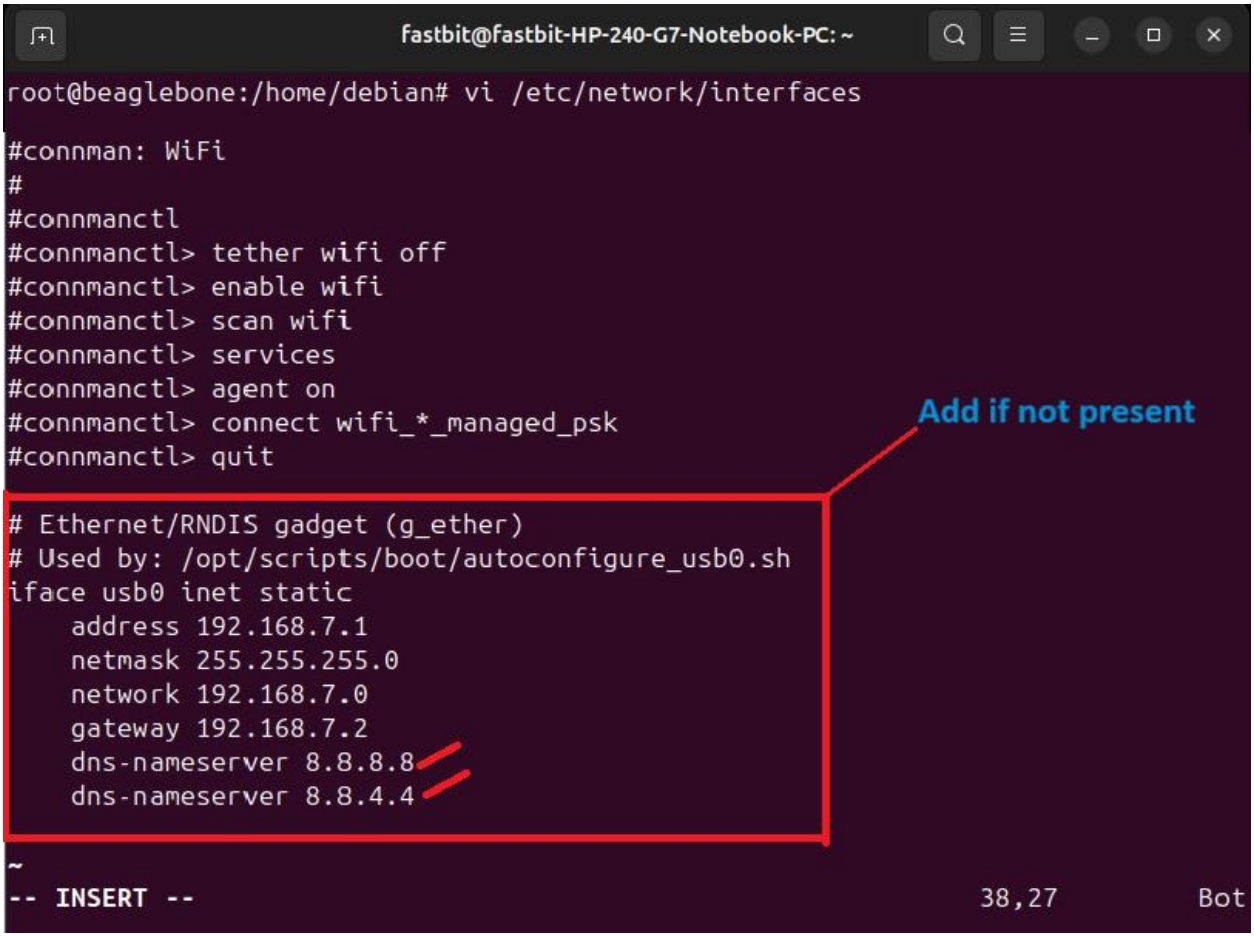


Figure 2.6. Adding contents inside /etc/network/interfaces

2.7. Add default gateway address by running the command as shown in Figure 5.
**route add default gw 192.168.7.1**(Using PC as default gateway).

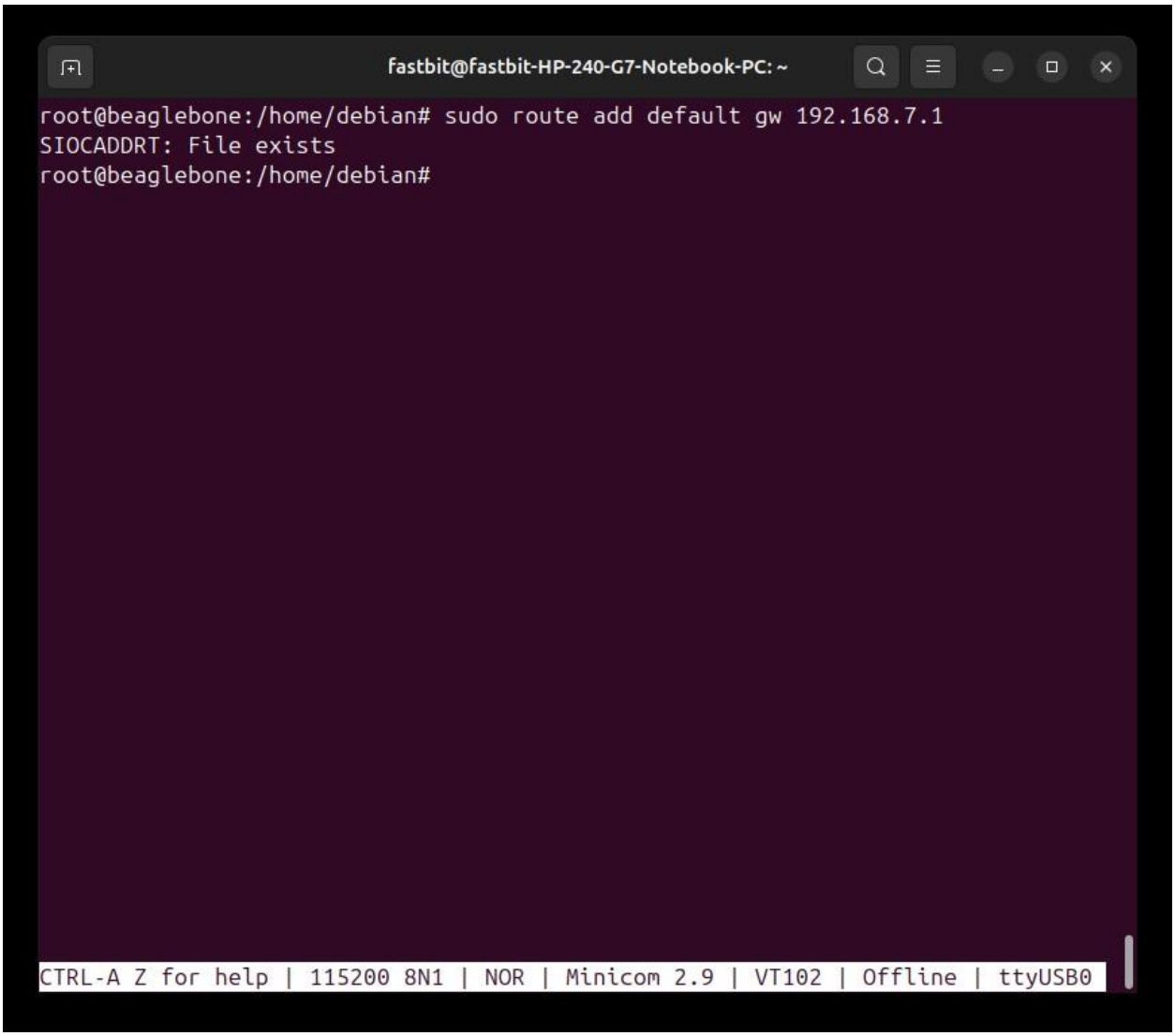


Figure 2.7. Adding the default gateway address

## 3. Host Settings

3.1. Run below commands.

**sudo iptables --table nat --append POSTROUTING --out-interface wlan0 -j MASQUERADE**

**sudo iptables --append FORWARD --in-interface wlan0 -j ACCEPT**

**sudo echo 1 > /proc/sys/net/ipv4/ip_forward**

*If you reboot your machine, again you must run these commands*
*So, it's better if you create a small script and execute when your machine reboots.*

**Download Script from this link:**
https://drive.google.com/file/d/1dsdw2nxKUWLWSpIwpvMh_054odBXmq40/view?usp=sharing

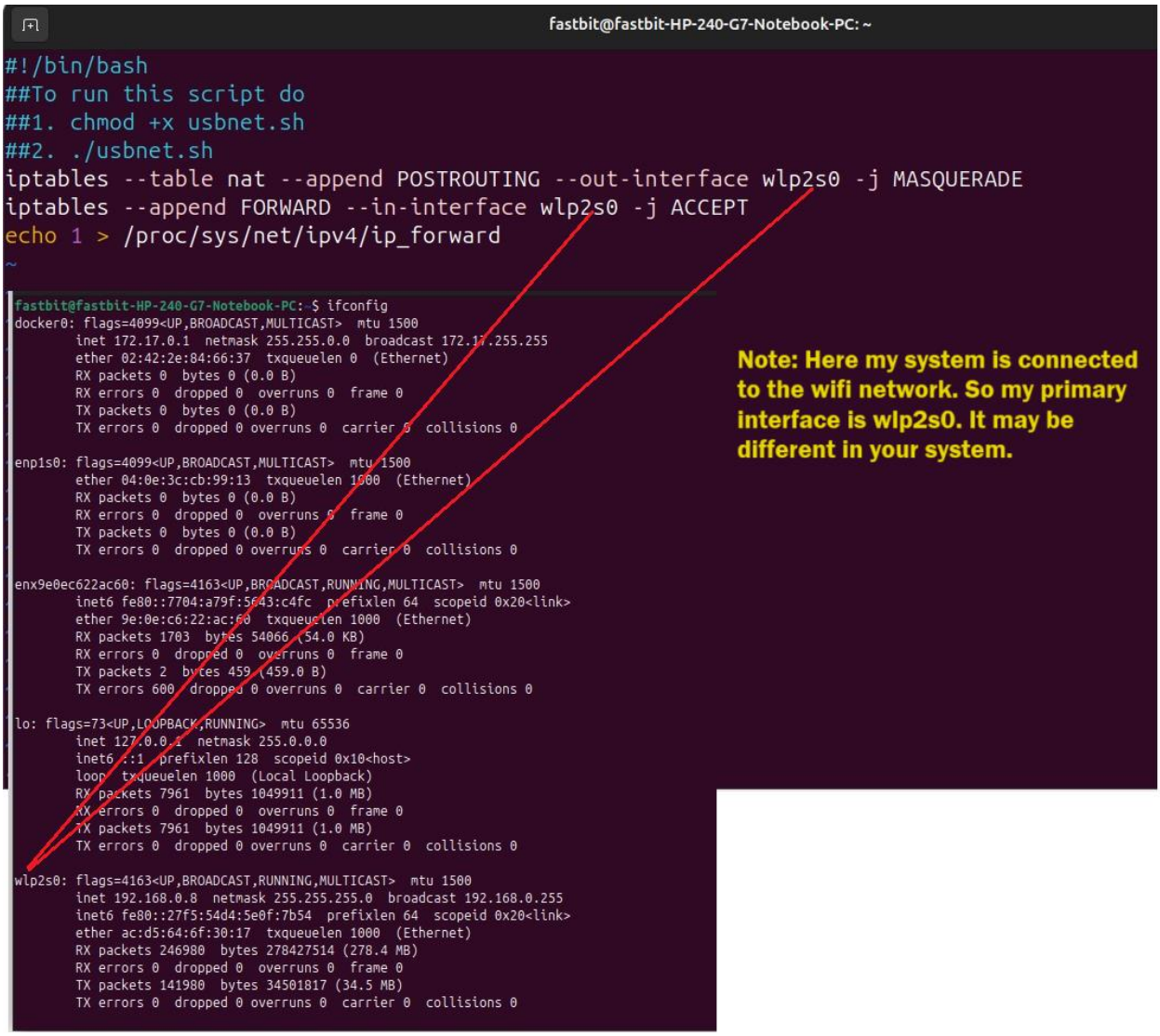


Figure 3.1. usbnet.sh

3.2. Give executable permission and run the script as shown in Figure 8.

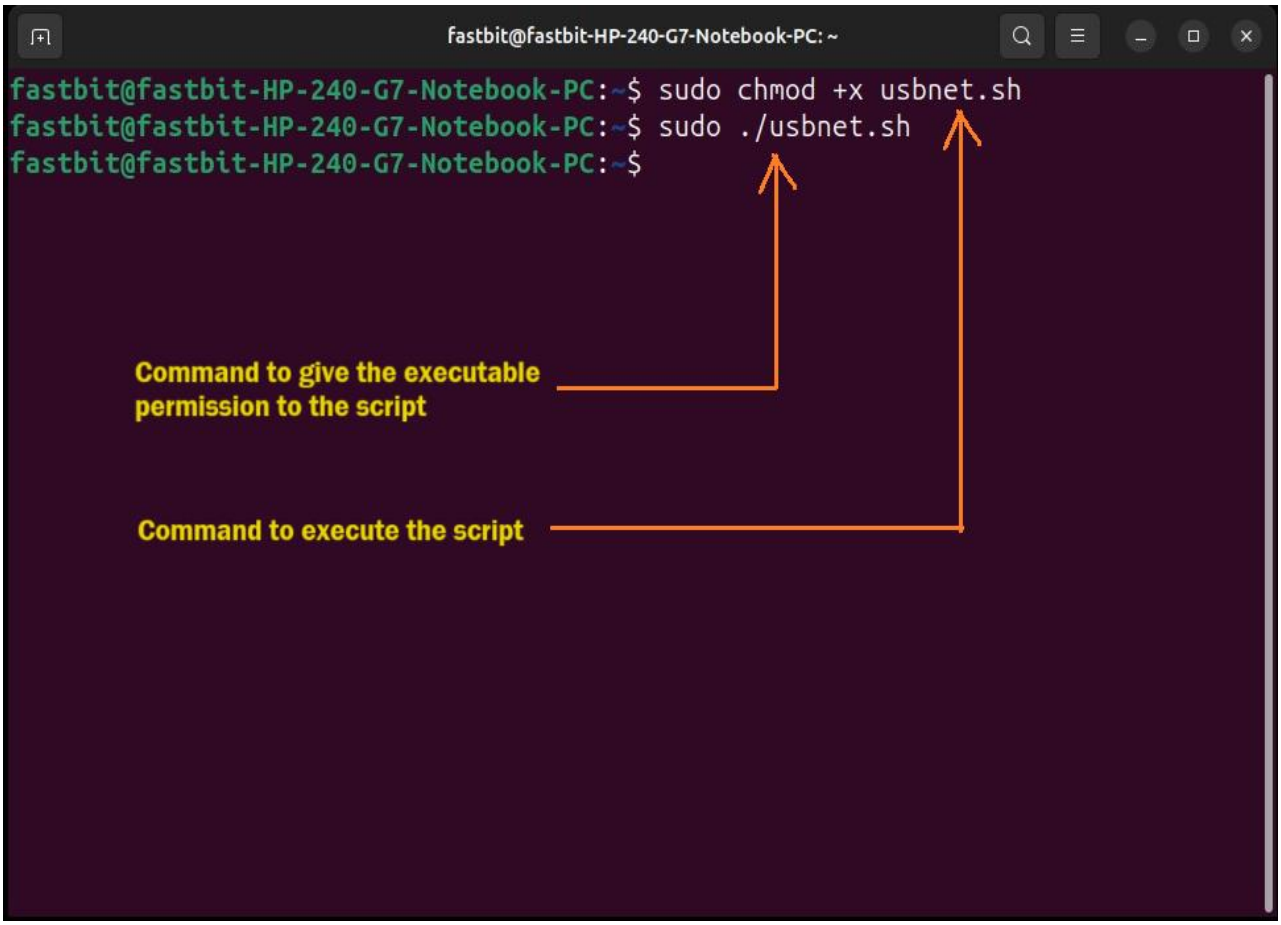


Figure 3.2. Giving executable permission and running the script

3.3. Goto the target and ping www.google.com as shown in the Figure 8.

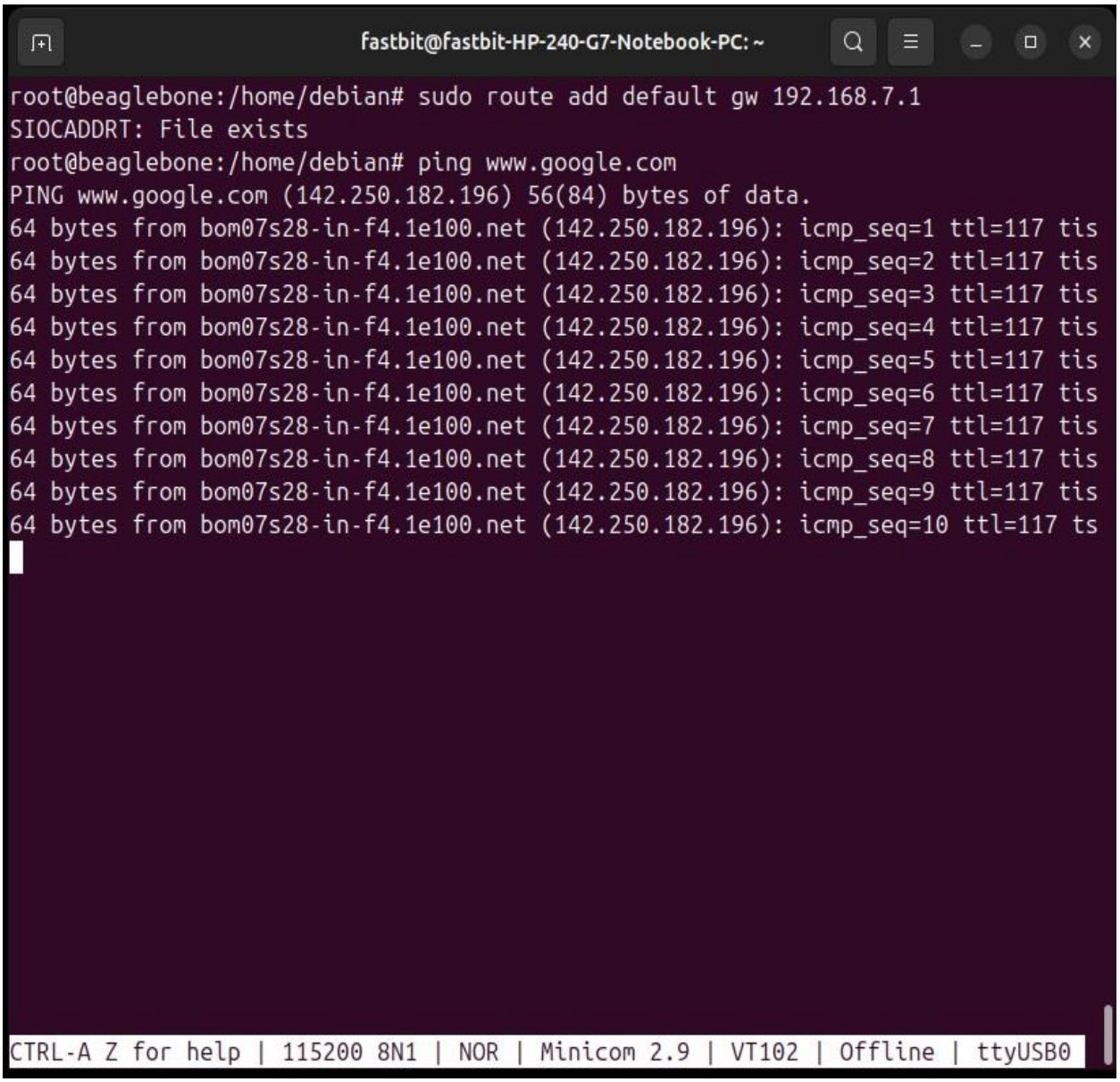


Figure 3.3. Ping to www.google.com