DNS

1) Objective
   In this lab, the student is asked to set up a DNS server for the network on R1.
   See https://help.ubuntu.com/lts/serverguide/dns-configuration.html#dns-primarymaster-configuration

2) Instructions
   There will be two zones. The primary will be known as **cnlab.** The secondary zone will be known as **second.cnlab.** The router R1 should be configured as a primary DNS server and will host both zones. The names of the machine in the cnlab. zone will be *R1*, *Kali* and *R2*. Make sure you assign the names to the correct Ethernet interfaces. The names in second.cnlab. will be *R2*, *R3*, *R4* and *Linux*. Again, make sure you assign the names to the correct addresses. Notice that R2 has two names; *R2.cnlab.* and *R2.second.cnlab.* each in different zones.
3) Create your DNS Server in two steps. First bring up the DNS server for the primary domain cnlab. The files you need to edit and create are under /etc/bind. Make sure you create the forward and reverse bindings. Edit /etc/resolv.conf in R2 and Kali and remove any settings such as

   nameserver 128.238.2.38
   search vital-nat-20
   Or
   domain nyu.edu
   search nyu.edu
   nameserver 128.238.2.38

4) Enter the following into /etc/resolv.conf for every machine in the network.
   nameserver <use the internal IP address on eth1> of R1
   domain cnlab.
   search cnlab.
5) On R1 in /etc/bind create db.cnlab. with the names and addresses of R1, R2 and Kali. Create the reverse zone db.10.XX.YY. where XX and YY are the address of the subnet you created from previous exercise.
6) (Note, if bind will be receiving automatic updates to the file as with DDNS, then use /var/lib/bind/db.cnlab.com rather than /etc/bind/db.cnlab.com both here and in the copy command below.)
7) Create your zone file:
   cp /etc/bind/db.local /etc/bind/db.cnlab (or cp /etc/bind/db.local)
8) Restart the DNS Service:
   `sudo systemctl restart bind9.service`
9)
10) Test it out by pinging the R2 machine and Kali by name from R1.