DHCP

Set up a DHCP server on router R4(eth2) such that, it leases IP addresses belonging to the subnet 10.10.11.16/28 to the Ubuntu VM. Assume that 10.10.11.17 has been assigned to the interface and that IP addresses run from 10.10.11.18 – 10.10.11.30

Note: Please make any necessary changes to the /etc/network/interfaces file of Ubuntu before you proceed. The file should have an entry for dhcp already that includes "iface eth0 inet dhcp"

Step 1:
The first step is to configure the dhcpd.conf (DHCP daemon configuration) file in router R4. This file is present in the /etc/dhcp directory. You can make edits to this file using any text editor. We have used nano here.

sudo nano /etc/dhcp/dhcpd.conf

Add the following snippet of code:

```
subnet 10.10.11.16 netmask 255.255.255.240 {
        range 10.10.11.18 10.10.11.30;
        option subnet-mask 255.255.255.240;
        option routers 10.10.11.17;
        option broadcast-address 10.10.10.7;
        default-lease-time 600;
        max-lease-time 7200;
}
```

Step 2:
Check the /etc/default/isc-dhcp-server file on R4. This file has to be changed so that the dhcp server knows which interface it should listen to for serving the IP addresses.

Include eth2 in INTERFACES as such:

INTERFACES= "eth2"

Step 3:
Reboot R4 and Ubuntu and verify the IP address has been obtained.
Note: To see if the dhcp server is running properly on R1 use the command *sudo systemctl status isc-dhcp-server.service*

Hand In:

The leases files to verify that Ubuntu has obtained an IP addresses.

Your configuration for the dhcpd server.