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Create a Setup so that you can ping google but not able to ping Facebook from same system

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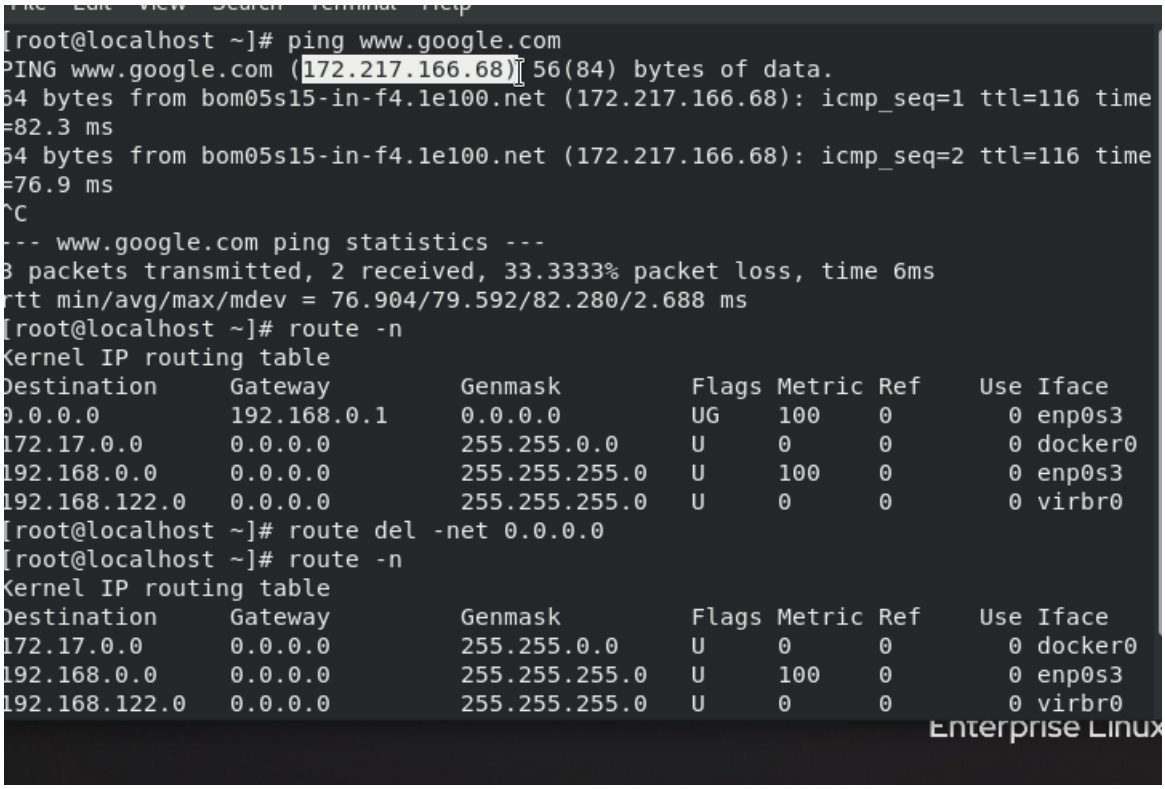
VirtualMachine should be able to ping to google but not to FB.

Solution: give the range in RT which has google IP in it but not of FB IP.

Pinging to google.com

Command: ping google.com



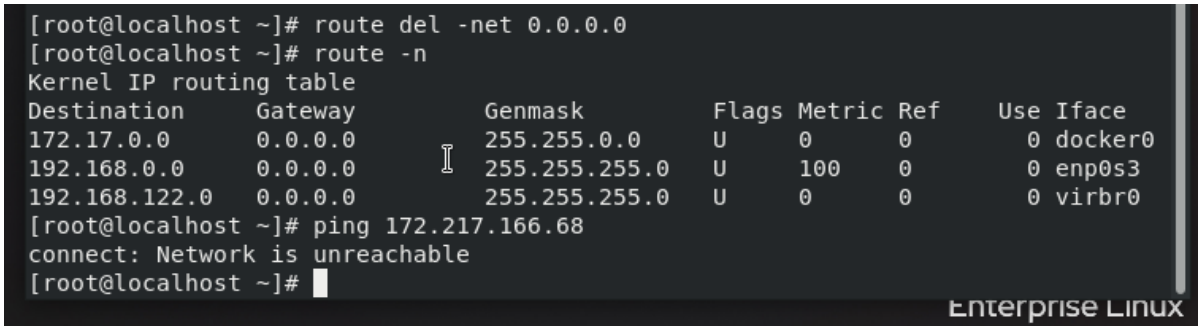
Working fine because 0.0.0.0 is by default added in Routing Table

Lets first delete this rule otherwise the system can ping any IP i.e will create the packets.

Command: route del -net 0.0.0.0

checking the table now:

Command: route -n



Let’s use one of the google IP i.e 172.217.166.0 – one can get all the ip by ns-lookup command eg. nslookup www.google.com

Give the netmask and proving the range

Command: route add -net 172.217.166.0 netmask 255.255.2555.0 gw 192.168.0.1

```
[root@localhost ~]# route add -net 172.217.166.0 netmask 255.255.255.0 gw 192.16
8.0.1 enp0s3
[root@localhost ~]# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
172.17.0.0      0.0.0.0         255.255.0.0     U     0      0        0 docker0
172.217.166.0   192.168.0.1     255.255.255.0   UG    0      0        0 enp0s3
192.168.0.0     0.0.0.0         255.255.255.0   U     100    0        0 enp0s3
192.168.122.0   0.0.0.0         255.255.255.0   U     0      0        0 virbr0
[root@localhost ~]#
```

Now range has been given create the packet. Ok

And go the gateway via nic and ping successful

Command: ping 172.217.166.68

```
192.168.0.0     0.0.0.0         255.255.255.0   U     100    0        0 enp0s3
192.168.122.0   0.0.0.0         255.255.255.0   U     0      0        0 virbr0
[root@localhost ~]# ping 172.217.166.68
PING 172.217.166.68 (172.217.166.68) 56(84) bytes of data.
64 bytes from 172.217.166.68: icmp_seq=1 ttl=116 time=77.4 ms
64 bytes from 172.217.166.68: icmp_seq=2 ttl=116 time=76.7 ms
64 bytes from 172.217.166.68: icmp_seq=3 ttl=116 time=80.2 ms
64 bytes from 172.217.166.68: icmp_seq=4 ttl=116 time=78.1 ms
^C
--- 172.217.166.68 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 13ms
rtt min/avg/max/mdev = 76.676/78.093/80.165/1.298 ms
[root@localhost ~]#
```

Let’s take one the FB ip: 157.240.198.35

Command: ping 157.240.198.35

```
[root@localhost ~]# ping 157.240.198.35
connect: Network is unreachable
[root@localhost ~]#
```

Its unreachable : as the rule for this IP range is not added.

Practical completed…….

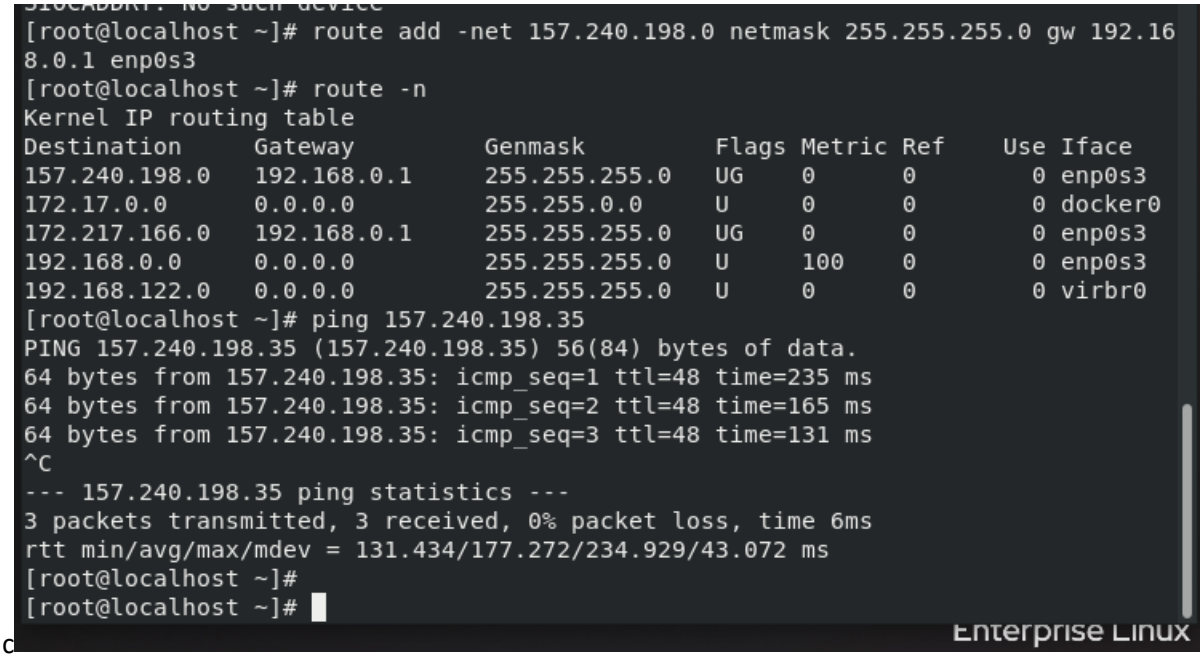
ADDITIONAL KNOWLEDGE

HOWEVER,

If we want to provide this range too, lets see how to do it.

Adding the new range

Command: route add -net 157.240.198.0 netmask 255.255.255.0 gw 192.168.0.1 enps3



Works……..

So, adding always range would we very hectic

Add the gateway 192.168.0.1 for any IP in the world.

And the first IP is 0.0.0.0 and the last IP is 255.255.255.255 - all possible IP range

And first IP known as network name of the range. So 0.0.0.0 means any IP. => 2^32 hosts possible. So here netmask is what /0.

0.0.0.0/0.0.0.0 => all the IP in the world. And Network name with netmask is called subnet id.

route add -net 0.0.0.0 netmask 0.0.0.0 gw 192.168.0.1

```
[root@localhost ~]# route add -net 0.0.0.0 netmask 0.0.0.0 gw 192.168.0.1 enp0s3
[root@localhost ~]# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
0.0.0.0         192.168.0.1     0.0.0.0         UG    0      0        0 enp0s3
157.240.198.0   192.168.0.1     255.255.255.0   UG    0      0        0 enp0s3
172.17.0.0      0.0.0.0         255.255.0.0     U     0      0        0 docker0
172.217.166.0   192.168.0.1     255.255.255.0   UG    0      0        0 enp0s3
192.168.0.0     0.0.0.0         255.255.255.0   U     100    0        0 enp0s3
192.168.122.0   0.0.0.0         255.255.255.0   U     0      0        0 virbr0
[root@localhost ~]#
```

Enterprise Linux

Now the system can ping any ip in the world.

Let’s ping to twitter.com

```
[root@localhost ~]# ping twitter.com
PING twitter.com (104.244.42.193) 56(84) bytes of data.
64 bytes from 104.244.42.193 (104.244.42.193): icmp_seq=1 ttl=55 time=83.6 ms
64 bytes from 104.244.42.193 (104.244.42.193): icmp_seq=2 ttl=55 time=82.6 ms
64 bytes from 104.244.42.193 (104.244.42.193): icmp_seq=3 ttl=55 time=82.8 ms
64 bytes from 104.244.42.193 (104.244.42.193): icmp_seq=4 ttl=55 time=81.9 ms
64 bytes from 104.244.42.193 (104.244.42.193): icmp_seq=5 ttl=55 time=86.0 ms
^C
--- twitter.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 114ms
rtt min/avg/max/mdev = 81.948/83.405/86.023/1.433 ms
[root@localhost ~]#
```

Enterprise Linux

Yes,, its working……