

如何从A PC通过B PC去访问C PC 【路由转发功能】

问题由来：印度robobus

描述：

工控机IP：192.168.4.88

Nvidia Master: 网卡a:192.168.4.103 网卡b：192.168.44.100

Nvidia Desktop:192.168.44.101

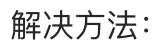
工控机与Nvidia主机都接入了交换机，Nvidia 从机没有接入；但是 Nvidia 主机与从机之间是有内部网段进行通信的。入下图（1-1）所示：

GEAC91VP 主板与从板之间通过一组 PCIE 进行通信，通过驱动虚拟出两个网络接口，出厂时已设置固定静态IP，用户可通过这个网络的固定 IP 进行主从通信。

网络	软件端口号	固定IP地址
主板	eth10	192.168.44.100
从板	eth10	192.168.44.101

图（1-1）

问题：如何通过工控机192.168.4.88去访问Nvidia Desktop:192.168.44.101？



```
1 sudo sysctl -w net.ipv4.ip_forward=1
```

```
1 iptables -t nat -A POSTROUTING -s 192.168.4.88/32 -
  j SNAT -- to 192.168.44.100
```

2/4

```
1 sudo ip route add 192.168.44.101 via 192.168.4.103
   dev enp4s0
```

```
t@t-Default-string:~$ sudo ip route add 192.168.44.101 via 192.168.4.103 dev enp4s0
```

step4.查看一下工控机下的IP路由列表

```
1 ip route
```

```
t@t-Default-string:~$ ip route
default via 192.168.4.1 dev enp4s0 proto static metric 101
default via 192.168.1.1 dev eno1 proto static metric 20102
default via 192.168.200.1 dev wlxac15a2af50c3 proto dhcp metric 20600
169.254.0.0/16 dev enp4s0 scope link metric 1000
172.17.0.0/16 dev docker0 proto kernel scope link src 172.17.0.1 linkdown
192.168.1.0/24 dev eno1 proto kernel scope link src 192.168.1.102 metric 102
192.168.4.0/24 dev enp4s0 proto kernel scope link src 192.168.4.88 metric 101
192.168.4.0/24 via 192.168.4.88 dev enp4s0 proto static metric 101
192.168.44.101 via 192.168.4.103 dev enp4s0
192.168.200.0/24 dev wlxac15a2af50c3 proto kernel scope link src 192.168.200.2 metric 600
```

如出现以上信息，说明路由转发功能已做好，ping 一下看看。

```
t@t-Default-string:~$ ping 192.168.44.101
PING 192.168.44.101 (192.168.44.101) 56(84) bytes of data.
 64 bytes from 192.168.44.101: icmp_seq=1 ttl=63 time=4.23 ms
 64 bytes from 192.168.44.101: icmp_seq=2 ttl=63 time=3.00 ms
 64 bytes from 192.168.44.101: icmp_seq=3 ttl=63 time=2.43 ms
 64 bytes from 192.168.44.101: icmp_seq=4 ttl=63 time=1.05 ms
 64 bytes from 192.168.44.101: icmp_seq=5 ttl=63 time=3.93 ms
 64 bytes from 192.168.44.101: icmp_seq=6 ttl=63 time=1.99 ms
 64 bytes from 192.168.44.101: icmp_seq=7 ttl=63 time=0.961 ms
 64 bytes from 192.168.44.101: icmp_seq=8 ttl=63 time=2.75 ms
 64 bytes from 192.168.44.101: icmp_seq=9 ttl=63 time=0.956 ms
 64 bytes from 192.168.44.101: icmp_seq=10 ttl=63 time=1.23 ms
 64 bytes from 192.168.44.101: icmp_seq=11 ttl=63 time=3.96 ms
 64 bytes from 192.168.44.101: icmp_seq=12 ttl=63 time=2.06 ms
^C
--- 192.168.44.101 ping statistics ---
12 packets transmitted, 12 received, 0% packet loss, time 11042ms
rtt min/avg/max/mdev = 0.956/2.382/4.235/1.163 ms
t@t-Default-string:~$
```

设置前：

```
t@t-Default-string:~$ ip route
default via 192.168.4.1 dev enp4s0 proto static metric 101
default via 192.168.1.1 dev eno1 proto static metric 20102
default via 192.168.200.1 dev wlxac15a2af50c3 proto dhcp metric 20600
169.254.0.0/16 dev enp4s0 scope link metric 1000
172.17.0.0/16 dev docker0 proto kernel scope link src 172.17.0.1 linkdown
192.168.1.0/24 dev eno1 proto kernel scope link src 192.168.1.102 metric 102
192.168.4.0/24 dev enp4s0 proto kernel scope link src 192.168.4.88 metric 101
192.168.4.0/24 via 192.168.4.88 dev enp4s0 proto static metric 101
192.168.200.0/24 dev wlxac15a2af50c3 proto kernel scope link src 192.168.200.2 metric 600
```

设置后：

```
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172.17.0.0/16 dev docker0 proto kernel scope link src 172.17.0.1 linkdown
192.168.1.0/24 dev eno1 proto kernel scope link src 192.168.1.102 metric 102
192.168.4.0/24 dev enp4s0 proto kernel scope link src 192.168.4.88 metric 101
192.168.4.0/24 via 192.168.4.88 dev enp4s0 proto static metric 101
192.168.44.101 via 192.168.4.103 dev enp4s0
192.168.200.0/24 dev wlxac15a2af50c3 proto kernel scope link src 192.168.200.2 metric 600
```