

Group No: 10, 41

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Lab11 Dynamic Routing

Experiment Steps:

1-2-3)

Firstly, we have created the topology we have created before in Lab10

```
Router1(config)#interface Serial 0/0/1
Router1(config)#interface Serial 0/0/1
Router1(config-if)#ip address 10.200.9.2 255.255.255.0
Router1(config-if)#exit
Router1(config)#interface Serial 0/0/1
Router1(config-if)#no shutdown
Router1(config-if)#no shutdown
Router1(config-if)#no shutdown
```

```
Router1(config)#interface Serial 0/0/1
Router1(config)#interface Serial 0/0/1
Router1(config-if)#clock rate 64000
Router1(config-if)#no shutdown
Router1(config-if)#no shutdown
Router1(config-if)#exit
```

```
Enter configuration commands, one per line. End with CTRL-Z
Router1(config)#ip default-gateway 10.100.10.254
Router1(config)#ip default-gateway 10.100.10.254
Router1(config)#
Router1#show ip route
*Jan 1 00:32:18.491: %SYS-5-CONFIG_I: Configured from console by console
% Type "show ?" for a list of subcommands
Router1#show ip route
Router1#show ip route
Router1#show ip route
Router1#show ip route
Default gateway is 10.100.10.254

Host          Gateway          Last Use    Total Uses  Interface
ICMP redirect cache is empty
Router1#show ip interface brief
Router1#show ip interface brief
Router1#show ip interface brief
Router1#show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
FastEthernet0/0 10.100.10.254   YES manual up          down
FastEthernet0/1 10.100.10.254   YES manual administratively down down
Serial0/0/0     10.200.11.2     YES manual down        down
Serial0/0/1     10.200.9.2      YES manual up          up
```

```

Router1(config)#inter
Router1(config)#interface Ser
Router1(config)#interface Serial 0/0/1
Router1(config-if)#enca
Router1(config-if)#encapsulation
% Incomplete command.

```

```

Router1(config-if)#encapsulation hd
Router1(config-if)#encapsulation hdlc

```

```

Router1#show ip interface br1
Router1#show ip interface brief

```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	10.100.10.254	YES	manual	up	up
FastEthernet0/1	10.100.111.144	YES	manual	administratively down	down
Serial0/0/0	10.200.11.2	YES	manual	down	down
Serial0/0/1	10.200.9.2	YES	manual	up	up

```

Router1#show ip ro
Router1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 7 subnets
C    10.100.10.0 is directly connected, FastEthernet0/0
R    10.100.8.0 [120/2] via 10.200.9.1, 00:00:13, Serial0/0/1
R    10.100.9.0 [120/1] via 10.200.9.1, 00:00:13, Serial0/0/1
R    10.100.7.0 [120/3] via 10.200.9.1, 00:00:13, Serial0/0/1
R    10.200.7.0 [120/2] via 10.200.9.1, 00:00:13, Serial0/0/1
R    10.200.8.0 [120/1] via 10.200.9.1, 00:00:13, Serial0/0/1
C    10.200.9.0 is directly connected, Serial0/0/1

```

```

Router1#show controller Ser
Router1#show controller Serial 0/0/1
Interface Serial0/0/1
Hardware is GT96K
DCE V.35, clock rate 2000000
idb at 0x62B388C8, driver data structure at 0x62B4008C
wic info 0x62B40688
Physical Port 2, SCC Num 2
MPSC Registers:
MMCR L=0x000304C0, MMCR H=0x00000000, MPCR=0x00000000
CHR1=0x00FE007E, CHR2=0x00000000, CHR3=0x000005F4, CHR4=0x00000000
CHR5=0x00000000, CHR6=0x00000000, CHR7=0x00000000, CHR8=0x00000000
CHR9=0x00000000, CHR10=0x00003008
SDMA Registers:
SDC=0x00002201, SDCM=0x00000080, SGC=0x0000C000
CRDP=0x073D72E0, CTDP=0x073D74F0, FTDB=0x073D74F0
Main Routing Register=0x0003FE38 BRG Conf Register=0x00490013
Rx Clk Routing Register=0x76543818 Tx Clk Routing Register=0x76543210
GPP Registers:

```


We have assigned all interfaces (FastEthernet, Serial) described in the Lab Topology.

4) Configure RIP Protocol

```

Router1(config-router)#network 10.0.0.0
Router1(config-router)#ex,t
^
% Invalid input detected at '^' marker.

Router1(config-router)#exit

Gateway of last resort is 10.100.9.2
10.0.0.0/24 is subnetted, 6 subnets
R   10.100.8.0 [120/2] via 10.200.9.1, 00:00:14, Serial0/0/1
R   10.100.9.0 [120/1] via 10.200.9.1, 00:00:14, Serial0/0/1
R   10.100.7.0 [120/3] via 10.200.9.1, 00:00:14, Serial0/0/1
R   10.200.7.0 [120/2] via 10.200.9.1, 00:00:14, Serial0/0/1
R   10.200.8.0 [120/1] via 10.200.9.1, 00:00:14, Serial0/0/1
C   10.200.9.0 is directly connected, Serial0/0/1
Router1#pi
Router1#ping 10.100.9.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.100.9.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 28/28/32 ms
Router1#
*Jan 1 00:45:08.815: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Jan 1 00:45:11.815: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
Router1#show ip int
Router1#show ip interface bri
Router1#show ip interface brief
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 10.100.10.254 YES manual up up
FastEthernet0/1 10.100.111.144 YES manual administratively down down
Serial0/0/0 10.200.11.2 YES manual down up
Serial0/0/1 10.200.9.2 YES manual up up
Router1#show ip ro
Router1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 7 subnets
C   10.100.10.0 is directly connected, FastEthernet0/0
R   10.100.8.0 [120/2] via 10.200.9.1, 00:00:13, Serial0/0/1
R   10.100.9.0 [120/1] via 10.200.9.1, 00:00:13, Serial0/0/1
R   10.100.7.0 [120/3] via 10.200.9.1, 00:00:13, Serial0/0/1
R   10.200.7.0 [120/2] via 10.200.9.1, 00:00:13, Serial0/0/1
R   10.200.8.0 [120/1] via 10.200.9.1, 00:00:13, Serial0/0/1
C   10.200.9.0 is directly connected, Serial0/0/1

```

We have set the RIP protocol. Then we sent ping to 10.100.9.2. You can see our ip interfaces.

5) Remove RIP configuration and configure OSPF protocol.


```

Router1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router1(config)#no router rip
Router1(config)#router ospf 1
Router1(config-router)#network 10.0.0.0 255.255.255.0 area 1
Router1(config-router)#

```

```

--- 10.100.9.2 ping statistics ---
4 packets transmitted, 0 received, +3 errors, 100% packet loss, time 2999ms
, pipe 3
[root@localhost ~]# ping 10.100.9.2
PING 10.100.9.2 (10.100.9.2) 56(84) bytes of data:
64 bytes from 10.100.9.2: icmp_seq=1 ttl=62 time=25.9 ms
64 bytes from 10.100.9.2: icmp_seq=2 ttl=62 time=23.7 ms
64 bytes from 10.100.9.2: icmp_seq=3 ttl=62 time=24.0 ms
^C
--- 10.100.9.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2001ms
rtt min/avg/max/mdev = 23.792/24.597/25.962/0.986 ms
[root@localhost ~]#

```

```

Router1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 2 subnets
C       10.100.10.0 is directly connected, FastEthernet0/0
C       10.200.9.0 is directly connected, Serial0/0/1

```

Here, we firstly tried this protocol with area 1. However it did not work as we want. We could send ping to just 10.100.9.2 which is connected as C. Then, we tried it again with area 0.

```

Router1(config)#router ospf 1
Router1(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router1(config-router)#

```

```

Router1#
*Jan 1 00:59:54.299: %OSPF-5-ADJCHG: Process 1, Nbr 10.200.9.1 on Serial0/0/1 from LOADING to FULL, Loading Complete
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 7 subnets
C       10.100.10.0 is directly connected, FastEthernet0/0
O       10.100.8.0 [110/129] via 10.200.9.1, 00:01:15, Serial0/0/1
O       10.100.9.0 [110/65] via 10.200.9.1, 00:01:15, Serial0/0/1
O       10.100.7.0 [110/193] via 10.200.9.1, 00:01:15, Serial0/0/1
O       10.200.7.0 [110/192] via 10.200.9.1, 00:01:15, Serial0/0/1
O       10.200.8.0 [110/128] via 10.200.9.1, 00:01:15, Serial0/0/1
C       10.200.9.0 is directly connected, Serial0/0/1

```

And we could send ping to other remote computers. Since we forgot to take a screenshot of pings i could not add here.

6) Remove OSPF configuration and configure EIGRP protocol.

```
Enter configuration commands, one per line. End with CTRL-Z
Router1(config)#no router ospf 1
Router1(config)#router eigrp 1
Router1(config-router)#network 10.0.0.0
Router1(config-router)#
Router1#
Router1#
*Jan 1 01:03:09.559: %SYS-5-CONFIG_I: Configured from console by console
Router1#show ip rou
Router1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
        ia - IS-IS inter area, * - candidate default, U - per-user static route
        o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 7 subnets
C    10.100.10.0 is directly connected, FastEthernet0/0
D    10.100.8.0 [90/2684416] via 10.200.9.1, 00:00:17, Serial0/0/1
D    10.100.9.0 [90/2172416] via 10.200.9.1, 00:00:59, Serial0/0/1
D    10.100.7.0 [90/3196416] via 10.200.9.1, 00:00:17, Serial0/0/1
D    10.200.7.0 [90/3193856] via 10.200.9.1, 00:00:17, Serial0/0/1
D    10.200.8.0 [90/2681856] via 10.200.9.1, 00:00:59, Serial0/0/1
C    10.200.9.0 is directly connected, Serial0/0/1
Router1#
```

```
, pipe 3
[root@localhost ~]# ping 10.100.7.2
PING 10.100.7.2 (10.100.7.2) 56(84) bytes of data:
64 bytes from 10.100.7.2: icmp_seq=1 ttl=60 time=73.7 ms
64 bytes from 10.100.7.2: icmp_seq=2 ttl=60 time=70.9 ms
64 bytes from 10.100.7.2: icmp_seq=3 ttl=60 time=70.9 ms
^C
--- 10.100.7.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 70.924/71.881/73.735/1.329 ms
[root@localhost ~]# ping 10.100.9.2
PING 10.100.9.2 (10.100.9.2) 56(84) bytes of data:
64 bytes from 10.100.9.2: icmp_seq=1 ttl=62 time=25.1 ms
64 bytes from 10.100.9.2: icmp_seq=2 ttl=62 time=23.8 ms
64 bytes from 10.100.9.2: icmp_seq=3 ttl=62 time=23.9 ms
64 bytes from 10.100.9.2: icmp_seq=4 ttl=62 time=23.8 ms
^C
--- 10.100.9.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 23.860/24.213/25.167/0.573 ms
[root@localhost ~]# ping 10.100.9.2
PING 10.100.9.2 (10.100.9.2) 56(84) bytes of data:
64 bytes from 10.100.9.2: icmp_seq=1 ttl=62 time=23.9 ms
64 bytes from 10.100.9.2: icmp_seq=2 ttl=62 time=23.8 ms
64 bytes from 10.100.9.2: icmp_seq=3 ttl=62 time=23.8 ms
64 bytes from 10.100.9.2: icmp_seq=4 ttl=62 time=23.8 ms
^C
--- 10.100.9.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 23.839/23.883/23.954/0.160 ms
[root@localhost ~]# ping 10.100.7.2
PING 10.100.7.2 (10.100.7.2) 56(84) bytes of data:
64 bytes from 10.100.7.2: icmp_seq=1 ttl=60 time=71.0 ms
64 bytes from 10.100.7.2: icmp_seq=2 ttl=60 time=71.2 ms
64 bytes from 10.100.7.2: icmp_seq=3 ttl=60 time=71.0 ms
64 bytes from 10.100.7.2: icmp_seq=4 ttl=60 time=71.0 ms
^C
--- 10.100.7.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 71.006/71.077/71.233/0.091 ms
[root@localhost ~]#
```

We could send pings to 10.100.9.2 and 10.100.7.2. You can see the ip route table.

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Lab12 NAT

Experiment Steps:

1- Basic Router Configurations

```
Router1(config)#enable password cisco
The enable password you have chosen is the same as your enable secret.
This is not recommended. Re-enter the enable password.

Router1(config)#line vty 0 4
Router1(config-line)#password ciscot
Router1(config-line)#login
Router1(config-line)#end
```

In our running-config, we can see that our password is visible.

```
Router1#show running-config
Building configuration...

Current configuration : 1003 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router1
!
boot-start-marker
boot-end-marker
!
enable secret 5 $1$jHmJ$5nSPI/gZkn2eJkaF1ZmrQ11
enable password cisco
!
no aaa new-model
!
resource policy
!
mmi polling-interval 60
no mmi auto-configure
no mmi pvc
mmi snmp-timeout 180
ip subnet-zero
ip cef
!
!
no ip dhcp use vrf connected
!
!
!
!
!
interface FastEthernet0/0
ip address 10.100.10.254 255.255.255.0
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 10.100.111.144 255.255.255.0
shutdown
duplex auto
speed auto
!
interface Serial0/0/0
```

```
line con 0
line aux 0
line vty 0 4
  password ciscot
  login
!
end

Router1#
Router1#
```

Then, we have configured password encryption.

```
Router1#disable
Router1>enable
Password:
Router1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router1(config)#service password-encryption
Router1(config)#show running-config
^
% Invalid input detected at '^' marker.

Router1(config)#^Z
Router1#
*Jan  1 01:14:35.571: %SYS-5-CONFIG_I: Configured from console by console
Router1#show running-config
Building configuration...

Current configuration : 1019 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Router1
!
boot-start-marker
boot-end-marker
!
enable secret 5 $1$jHmJ$n5PI/gZkn2eJkaF1ZmrQ11
enable password 7 045802150C2E
!
no aaa new-model
!
resource policy
!
mmi polling-interval 60
no mmi auto-configure
no mmi pvc
--More--
```

0500 8M1 | N0R | Mini.com 2.2 | VT102 | offline

```

service timestamps log datetime msec
service password-encryption

hostname Router1

boot-start-marker
boot-end-marker

!
enable secret 5 $1sJHmJ$5PI/gZkn2eJkaF1ZmrQ11
enable password 7 045802150C2E
!
no aaa new-model
!
resource policy
!
mmi polling-interval 60
no mmi auto-configure
no mmi pvc

```

The password is encrypted here.

2- Router NAT Configurations

```

Router1#conf
Router1#configure term
Router1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router1(config)#interfa
Router1(config)#interface Fas
Router1(config)#interface FastEthernet 0/0
Router1(config-if)#ip nat
Router1(config-if)#ip nat insi
Router1(config-if)#ip nat inside
Router1(config-if)#
*Jan  1 01:16:43.079: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Router1(config-if)#exit
Router1(config)#inter
Router1(config)#interface ser
Router1(config)#interface serial 0/0/1
Router1(config-if)#ip na
Router1(config-if)#ip nat out
Router1(config-if)#ip nat outside
Router1(config-if)#exit
Router1(config)#

```

2- Dynamic NAT Configurations


```

Router1(config-if)#exit
Router1(config)#ip nat pool pool10 10.100.10.99 10.100.10.99 netmask 255.255.255
Router1(config)#acc
Router1(config)#access-list 10 perm
Router1(config)#access-list 10 permit 10.100.10.0 0.0.0.255
Router1(config)#ip nat ins
Router1(config)#ip nat inside source list 10 pool pool10 overload
Router1(config)#

```

After we have configured nat, we tried to send ping.

```

[root@localhost ~]# ping 10.100.7.99
PING 10.100.7.99 (10.100.7.99) 56(84) bytes of data.
64 bytes from 10.100.7.99: icmp_seq=1 ttl=252 time=72.5 ms
64 bytes from 10.100.7.99: icmp_seq=2 ttl=252 time=72.1 ms
64 bytes from 10.100.7.99: icmp_seq=3 ttl=252 time=71.9 ms
64 bytes from 10.100.7.99: icmp_seq=4 ttl=252 time=71.7 ms
64 bytes from 10.100.7.99: icmp_seq=5 ttl=252 time=71.8 ms
^C
--- 10.100.7.99 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 71.724/72.047/72.542/0.406 ms
[root@localhost ~]# ping 10.100.9.99
PING 10.100.9.99 (10.100.9.99) 56(84) bytes of data.
64 bytes from 10.100.9.99: icmp_seq=1 ttl=62 time=24.5 ms
64 bytes from 10.100.9.99: icmp_seq=2 ttl=62 time=24.2 ms
64 bytes from 10.100.9.99: icmp_seq=3 ttl=62 time=24.1 ms
64 bytes from 10.100.9.99: icmp_seq=4 ttl=62 time=24.2 ms
^C
--- 10.100.9.99 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 24.194/24.301/24.521/0.169 ms
[root@localhost ~]# ping 10.100.8.99
PING 10.100.8.99 (10.100.8.99) 56(84) bytes of data.
64 bytes from 10.100.8.99: icmp_seq=1 ttl=61 time=48.2 ms
64 bytes from 10.100.8.99: icmp_seq=2 ttl=61 time=47.8 ms
64 bytes from 10.100.8.99: icmp_seq=3 ttl=61 time=47.9 ms
64 bytes from 10.100.8.99: icmp_seq=4 ttl=61 time=47.8 ms
^C
--- 10.100.8.99 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 47.836/47.970/48.270/0.175 ms
[root@localhost ~]# ping 10.100.7.99
PING 10.100.7.99 (10.100.7.99) 56(84) bytes of data.
64 bytes from 10.100.7.99: icmp_seq=1 ttl=252 time=72.0 ms
64 bytes from 10.100.7.99: icmp_seq=2 ttl=252 time=88.0 ms
64 bytes from 10.100.7.99: icmp_seq=3 ttl=252 time=71.9 ms
64 bytes from 10.100.7.99: icmp_seq=4 ttl=252 time=72.0 ms
^C
--- 10.100.7.99 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 71.990/76.030/88.049/6.939 ms

```

```
[root@localhost ~]# ping 10.100.9.2
PING 10.100.9.2 (10.100.9.2) 56(84) bytes of data.
64 bytes from 10.100.9.2: icmp_seq=1 ttl=62 time=23.9 ms
64 bytes from 10.100.9.2: icmp_seq=2 ttl=62 time=23.8 ms
64 bytes from 10.100.9.2: icmp_seq=3 ttl=62 time=23.8 ms
64 bytes from 10.100.9.2: icmp_seq=4 ttl=62 time=23.8 ms
^C
--- 10.100.9.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 23.839/23.883/23.954/0.160 ms
[root@localhost ~]# ping 10.100.7.2
PING 10.100.7.2 (10.100.7.2) 56(84) bytes of data.
64 bytes from 10.100.7.2: icmp_seq=1 ttl=60 time=71.0 ms
64 bytes from 10.100.7.2: icmp_seq=2 ttl=60 time=71.2 ms
64 bytes from 10.100.7.2: icmp_seq=3 ttl=60 time=71.0 ms
64 bytes from 10.100.7.2: icmp_seq=4 ttl=60 time=71.0 ms
^C
--- 10.100.7.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 71.006/71.077/71.233/0.091 ms
```

We sent pings to 10.100.9.99, 10.100.8.99, 10.100.7.99 and 10.100.9.2, 10.100.7.2. Both was successful.

3- NAT Table

```
Router1#show ip nat translation
Pro Inside global      Inside local    Outside local   Outside global
icmp 10.100.10.99:40204 10.100.10.1:40204 10.100.8.2:40204 10.100.8.2:40204
icmp 10.100.10.99:40716 10.100.10.1:40716 10.100.7.99:40716 10.100.7.99:40716
icmp 10.100.10.99:40972 10.100.10.1:40972 10.100.7.2:40972 10.100.7.2:40972
icmp 10.100.10.99:8806 10.100.10.99:8806 10.100.8.99:8806 10.100.8.99:8806
tcp 10.100.10.99:2      10.100.10.254:1 10.100.8.2:51024 10.100.8.2:51024
tcp 10.100.10.99:1      10.100.10.254:23 10.100.8.2:51024 10.100.8.2:51024
```

This is our nat translation table. Inside local ip addresses are our actual (private) ip addresses. Inside global ip addresses represents local inside devices to an outside network. that address is routable on the internet. Outside local ip addresses are how the inside devices see the outside device. And finally outside globals are the actual routable IP address of the outside device. It is the address assigned by the device's owner, and is routable on the internet.

4- Telnet


```
C
root@localhost ~]# telnet 10.200.9.1
Trying 10.200.9.1...
Connected to 10.200.9.1.
Escape character is '^]'.

User Access Verification

Password:
Router>enable
Password:
Router#show users

      Line      User      Host(s)      Idle      Location
  *  0 con 0
  * vty 194
                                     idle
                                     00:00:29
                                     idle
                                     00:00:00 10.100.10.99

      Interface      User      Mode      Idle      Peer Address
Router#
```

We connected to 10.200.9.1 and we entered show users command. We can see that only us using this router.

```
*Jan 1 02:00:54.559: %SYS-5-CONFIG_I: Configured from console by vty0/0/1 (10.100.7.
Router1>enable
Password:
Router1#show user

      Line      User      Host(s)      Idle      Location
  *  0 con 0
    vty 194
    vty 195
    vty 196
                                     idle
                                     10.200.9.2
                                     idle
                                     idle
                                     00:00:00
                                     00:01:32 10.200.7.1
                                     00:01:41 10.200.9.2
                                     00:03:37 10.100.9.99

      Interface      User      Mode      Idle      Peer Address
Router1#
```

CTRL-A Z for help | 9600 8N1 | NDR | Minicom 2.2 | VT102 | Offline

root@localhost:~ root@localhost:~ root@localhost:~ root@localhost:~

This is our router. We can see that 3 users from 2 groups are using our router.