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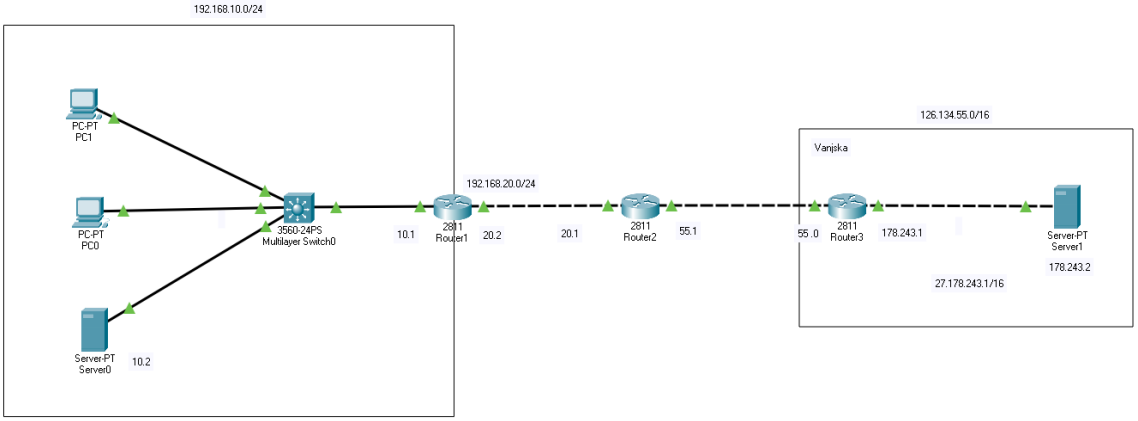
Izvještaj iz Zadaće 4

Računarske mreže

Mrežna topologija:

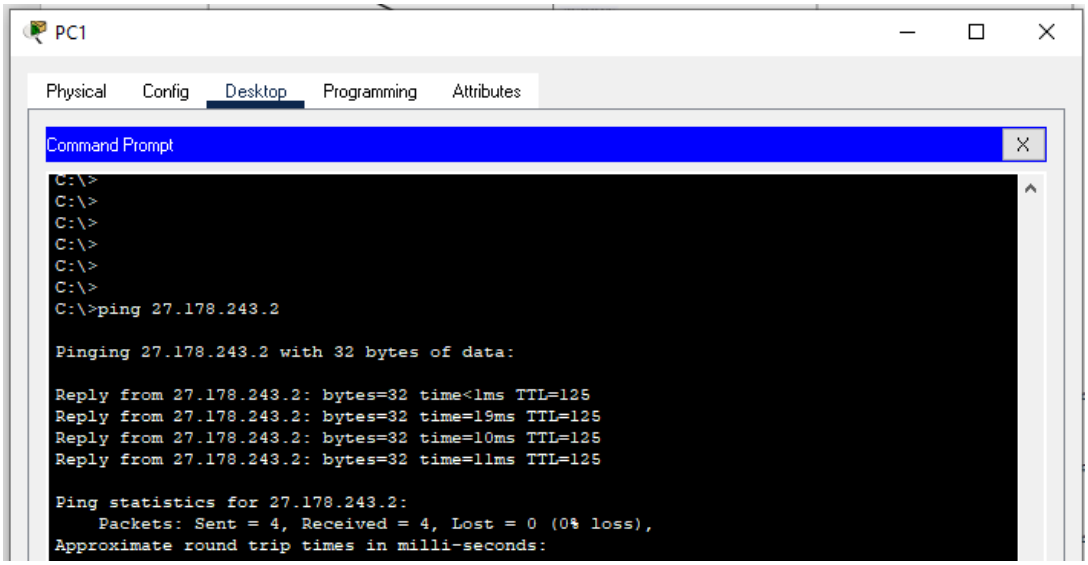


Unutrašnju mrežu čine dvije podmreže: 192.168.10.0/24 i 192.168.20.0/24. Granični ruter (Router2) ima adresu 126.134.55.1, na njemu je implementiran i NAT. Vanjsku mrežu predstavljaju Router3 i server. Oni se nalaze u mreži 27.178.243.1/16.

NAT smo definisali na graničnom ruteru (Router2) te smo definisali unutrašnji i vanjski NAT interfejs. Navedeno je postignuto korištenjem komandi:

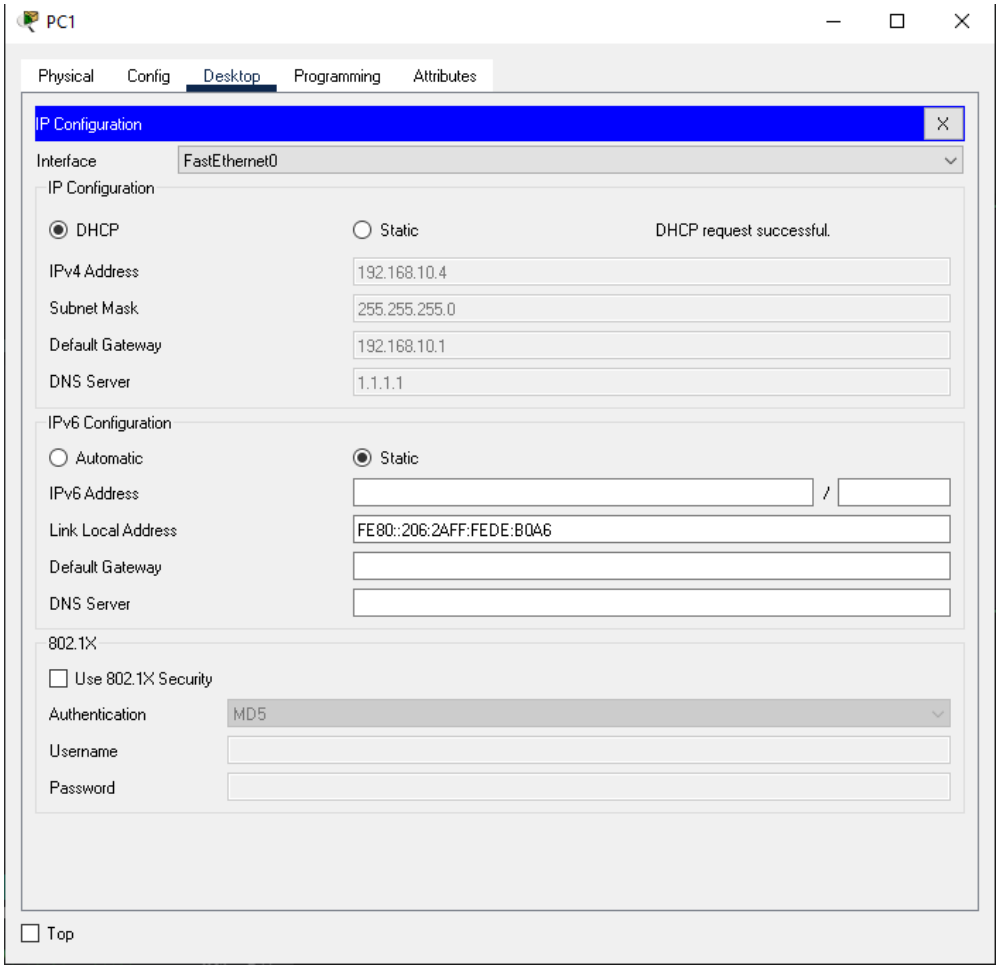
```
interface fastEthernet 0/0
 ip nat inside
 interface fastEthernet 0/1
 ip nat outside
ip nat inside source list 1 interface fastEthernet 0/1 overload
access-list 1 permit any
```

Test za NAT, pingamo sa računara PC1 na server u vanjskoj mreži:




```
IP: tableid=0, s=126.134.55.1 (FastEthernet0/0), d=27.178.243.2 (FastEthernet0/1), routed via RIB

IP: s=126.134.55.1 (FastEthernet0/0), d=27.178.243.2 (FastEthernet0/1), g=27.178.243.2, len 128, forward

IP: tableid=0, s=27.178.243.2 (FastEthernet0/1), d=126.134.55.1 (FastEthernet0/0), routed via RIB

IP: s=27.178.243.2 (FastEthernet0/1), d=126.134.55.1 (FastEthernet0/0), g=126.134.55.1, len 128, forward

IP: tableid=0, s=126.134.55.1 (FastEthernet0/0), d=27.178.243.2 (FastEthernet0/1), routed via RIB

IP: s=126.134.55.1 (FastEthernet0/0), d=27.178.243.2 (FastEthernet0/1), g=27.178.243.2, len 128, forward

IP: tableid=0, s=27.178.243.2 (FastEthernet0/1), d=126.134.55.1 (FastEthernet0/0), routed via RIB

IP: s=27.178.243.2 (FastEthernet0/1), d=126.134.55.1 (FastEthernet0/0), g=126.134.55.1, len 128, forward
```

DHCP je uključen na graničnom ruteru.



Komande:

ip dhcp pool rmz4-pool

default-router 192.168.10.1

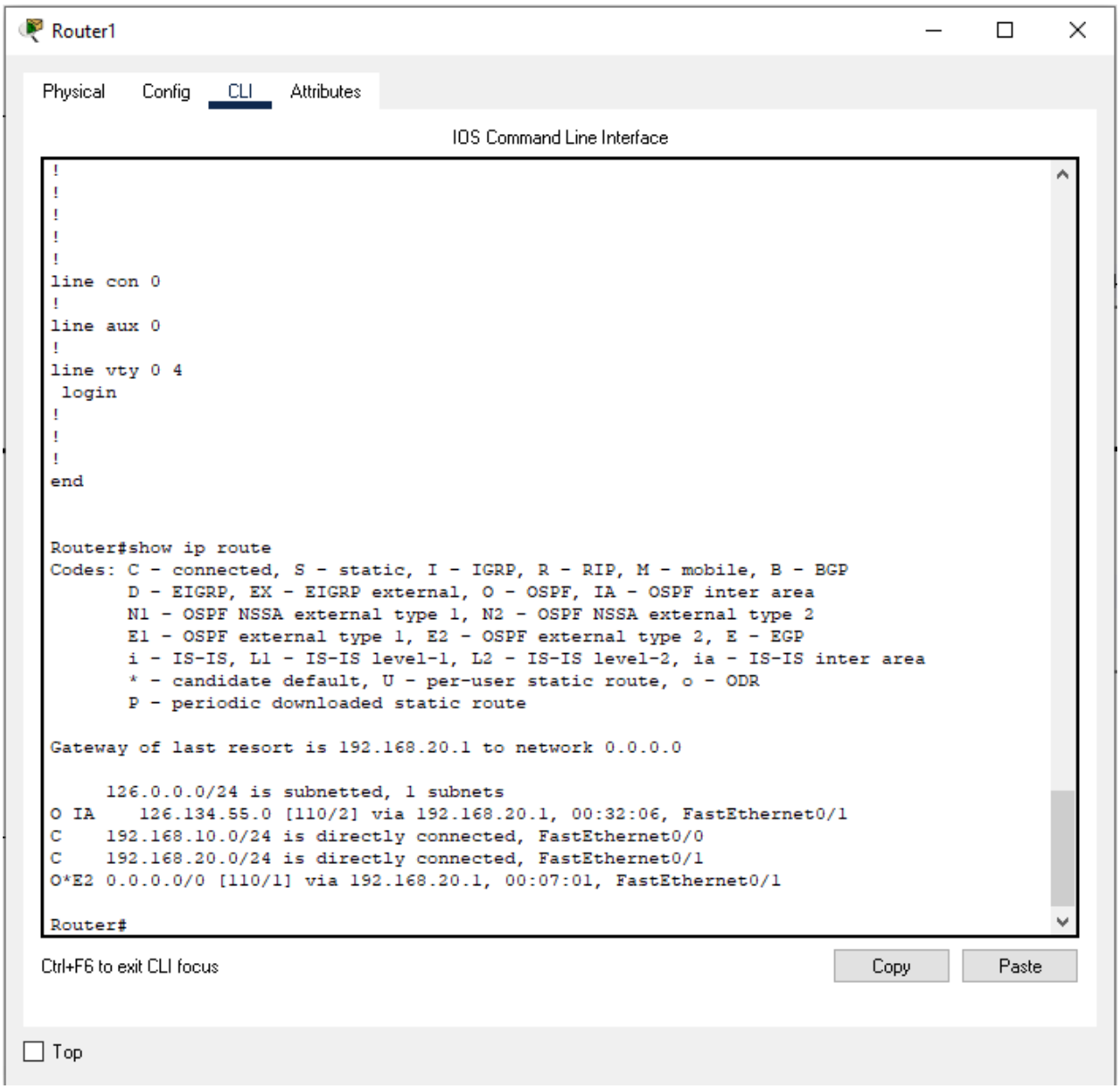
dns-server 1.1.1.1

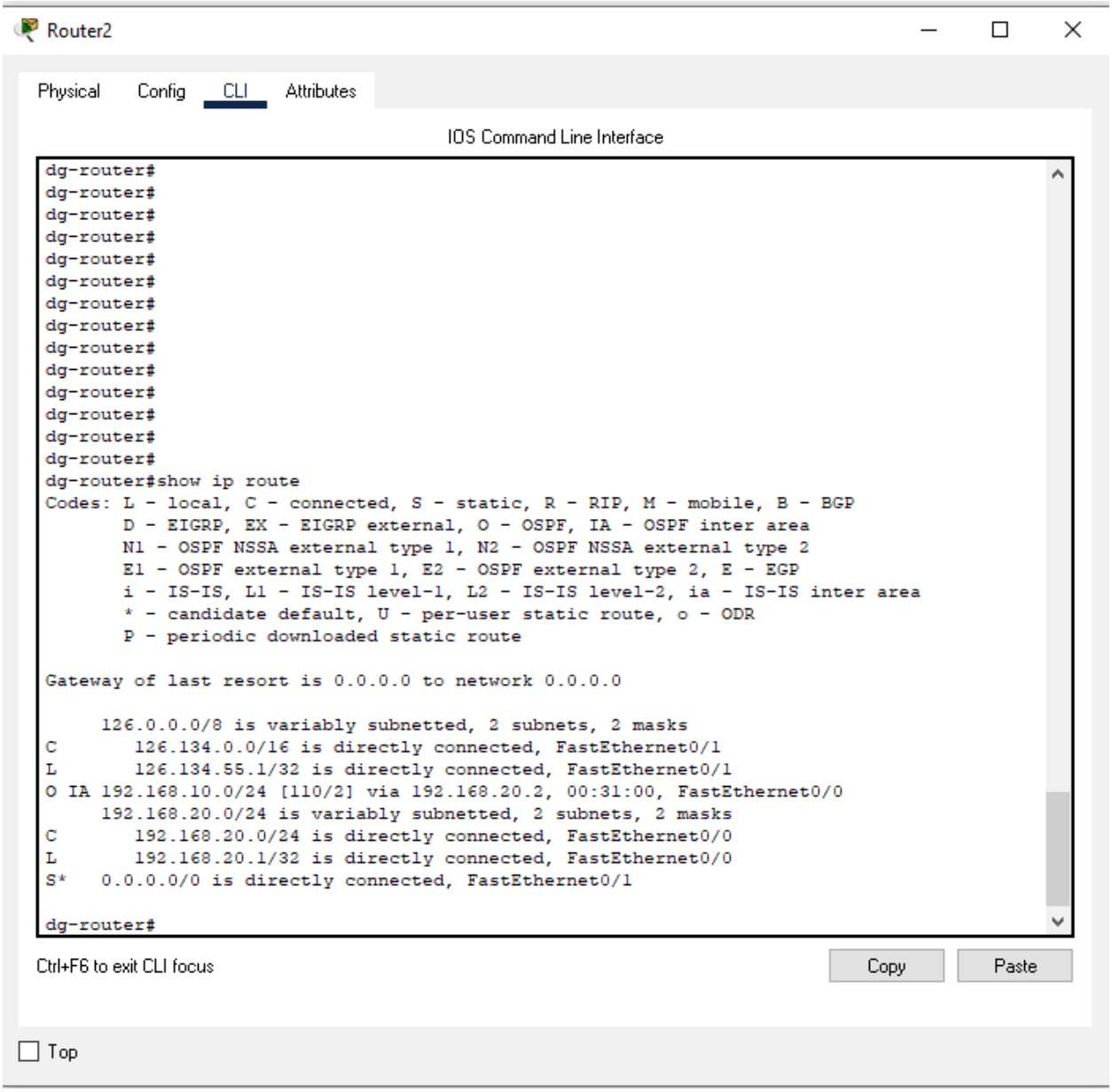
network 192.168.10.0 255.255.255.0

ip dhcp excluded-address 192.168.10.1 192.168.10.2

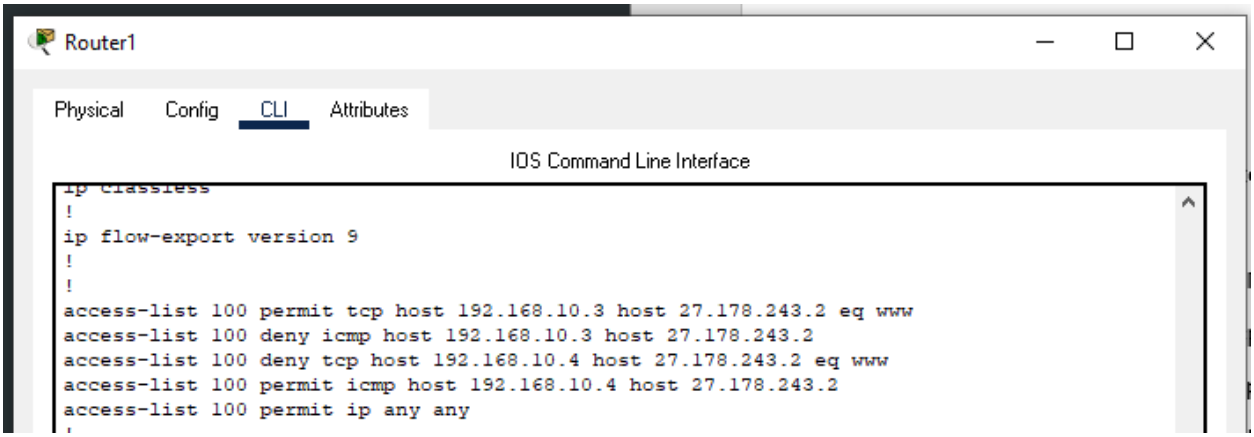
Unutrašnjem routeru smo dali informaciju, gdje se nalazi DHCP server, komandom ip helper-address.

Statičku rutu smo definisali komandom ip route 0.0.0.0 0.0.0.0 fastEthernet0/1, vidimo show ip route za rutere 1 i 2 na sljedećim slikama.




Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#
dg-router#show ip route
Codes: L - local, 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, E - EGP
i - IS-IS, 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 0.0.0.0 to network 0.0.0.0
126.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 126.134.0.0/16 is directly connected, FastEthernet0/1
L 126.134.55.1/32 is directly connected, FastEthernet0/1
O IA 192.168.10.0/24 [110/2] via 192.168.20.2, 00:31:00, FastEthernet0/0
192.168.20.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.20.0/24 is directly connected, FastEthernet0/0
L 192.168.20.1/32 is directly connected, FastEthernet0/0
S* 0.0.0.0/0 is directly connected, FastEthernet0/1
dg-router#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

Access liste smo definisali na ruteru 1.



Za access liste smo koristili komande:

access-list 100 remark RMZ4-ACL

access-list 100 permit tcp host 192.168.10.3 host 27.178.243.2 eq 80

access-list 100 deny icmp host 192.168.10.3 host 27.178.243.2

access-list 100 deny tcp host 192.168.10.4 host 27.178.243.2 eq 80

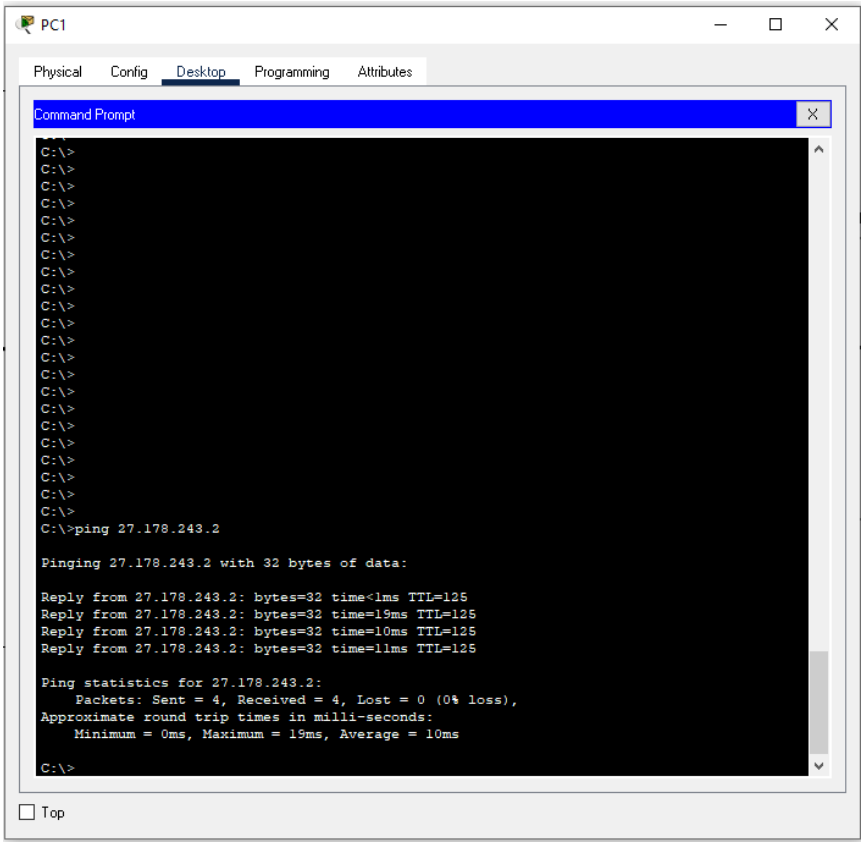
access-list 100 permit icmp host 192.168.10.4 host 27.178.243.2

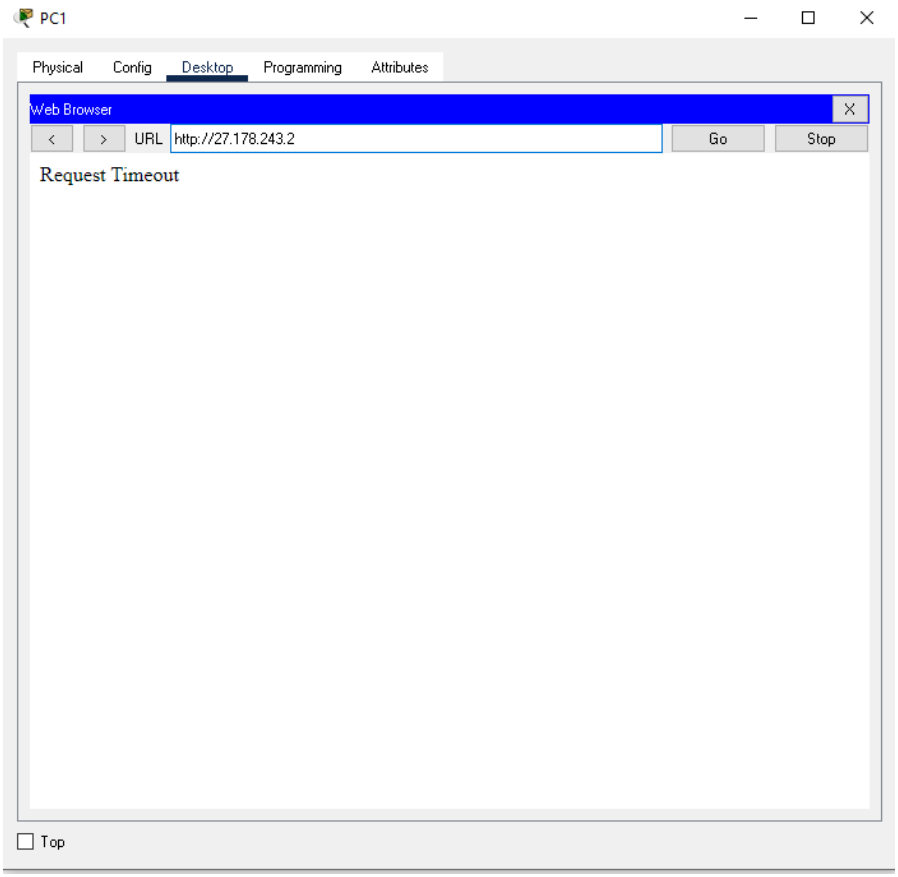
access-list 100 permit ip any any

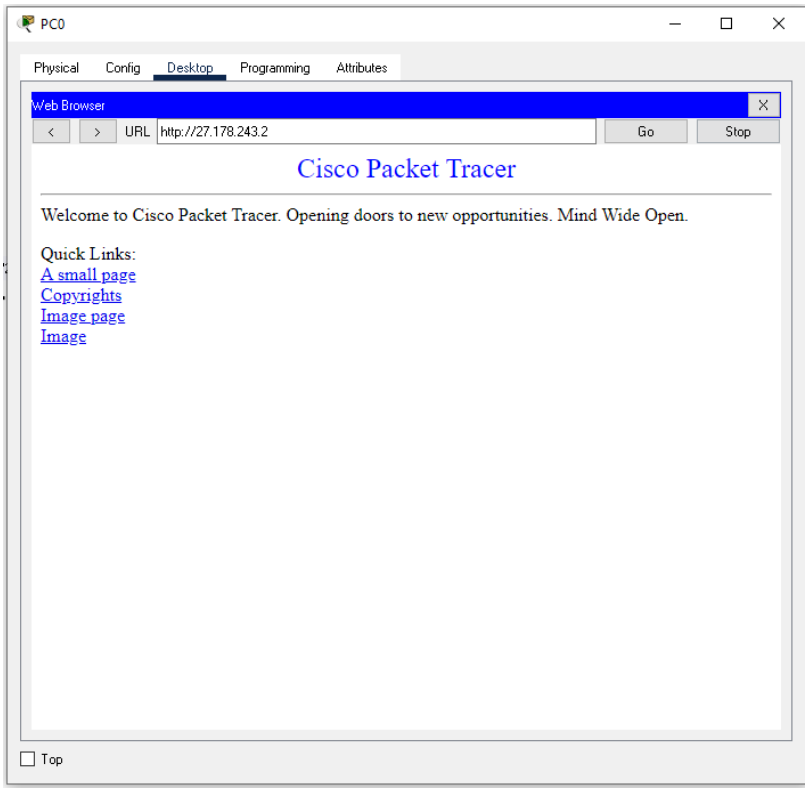
interface fastEthernet 0/0

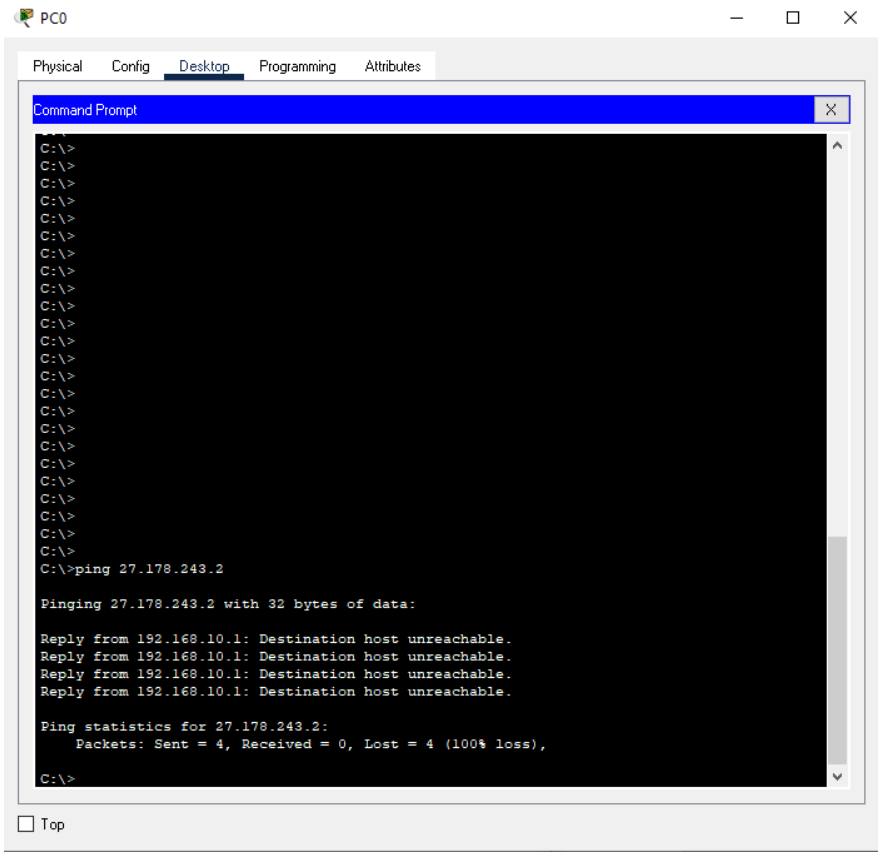
ip access-group 100 in

Njihov efekat vidimo na sljedećim slikama:


PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>ping 27.178.243.2
Pinging 27.178.243.2 with 32 bytes of data:
Reply from 27.178.243.2: bytes=32 time<1ms TTL=125
Reply from 27.178.243.2: bytes=32 time=19ms TTL=125
Reply from 27.178.243.2: bytes=32 time=10ms TTL=125
Reply from 27.178.243.2: bytes=32 time=11ms TTL=125
Ping statistics for 27.178.243.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 19ms, Average = 10ms
C:\>
Top


PC1
Physical
Config
Desktop
Programming
Attributes
Web Browser
URL
http://27.178.243.2
Go
Stop
Request Timeout
Top


PC0
Physical
Config
Desktop
Programming
Attributes
Web Browser
URL
http://27.178.243.2
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image
Top


PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
C:\>ping 27.178.243.2
Pinging 27.178.243.2 with 32 bytes of data:
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Ping statistics for 27.178.243.2:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top