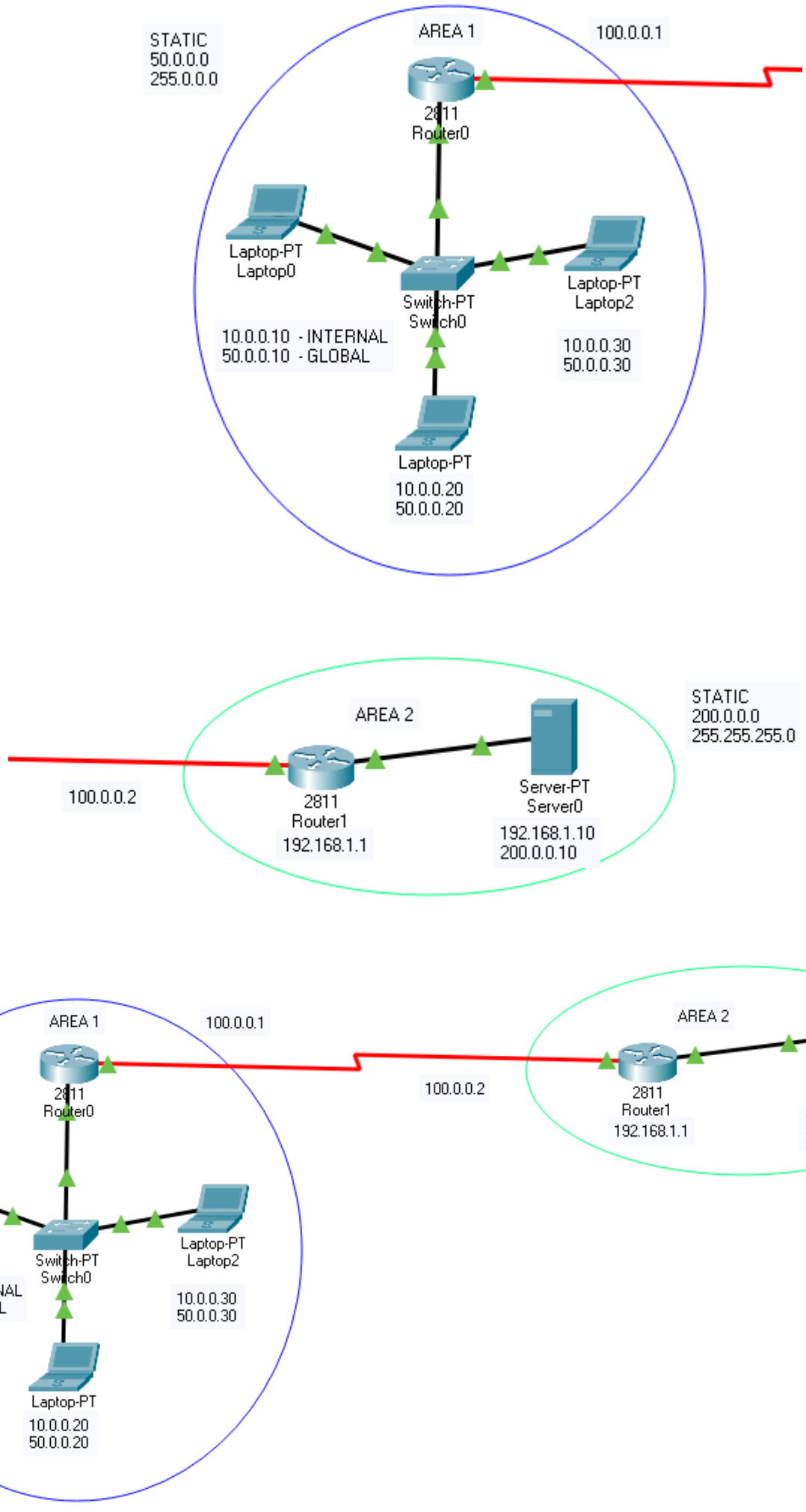
Computer Networks
RA1911030010014
Experiment - 12
Implementation of NAT using Cisco Packet Tracer

Aim: Implementation of NAT using Cisco packet tracer.

Software: Cisco Packet Tracer

Implementation Code:



Since static NAT use manual translation, we have to map each inside local IP address (which needs a translation) with inside global IP address. Following command is used to map the inside local IP address with inside global IP address.

Router(config)#ip nat inside source static [inside local ip address] [inside global IP address]

Laptop1 is configured with IP address 10.0.0.10. To map it with 50.0.0.10 IP address we will use following command
Router(config)#ip nat inside source static 10.0.0.10 50.0.0.10

In second step we have to define which interface is connected with local the network. On both routers interface Fa0/0 is connected with the local network which need IP translation.

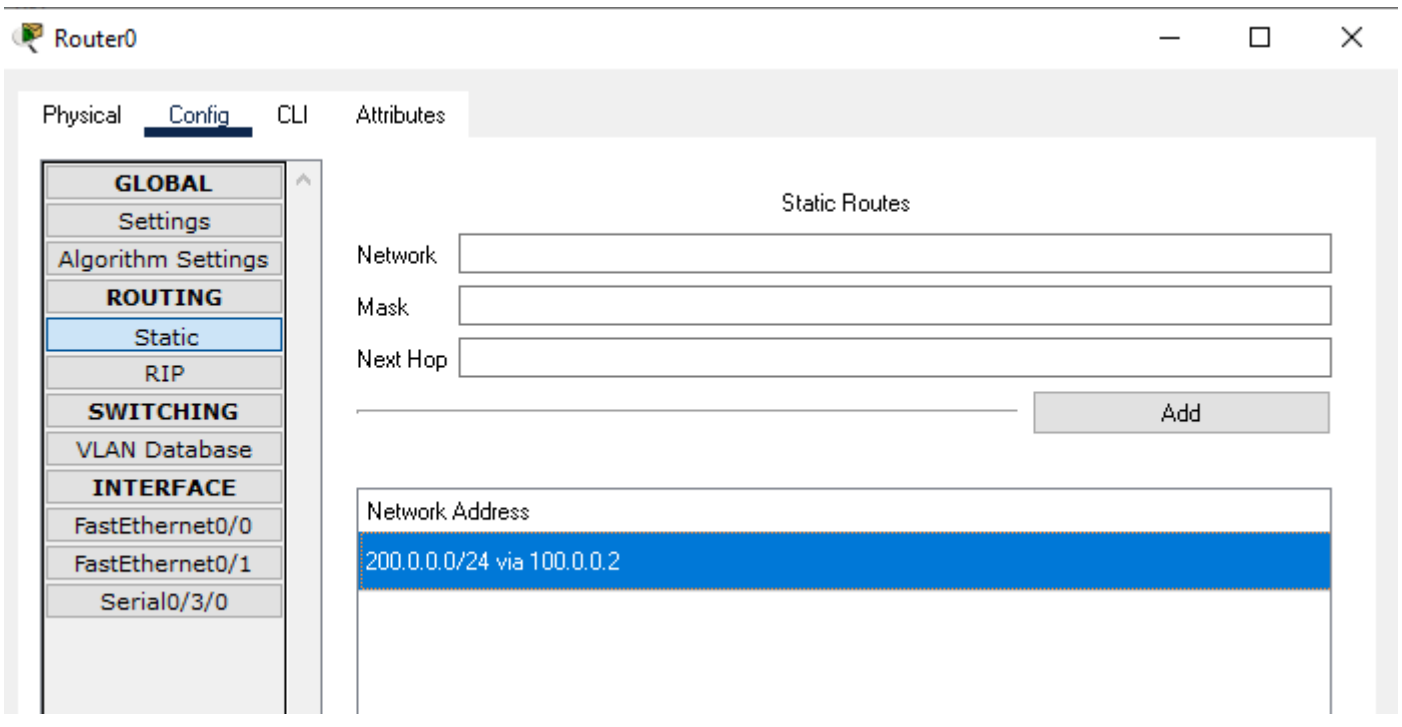
Following command will define interface Fa0/0 as inside local.

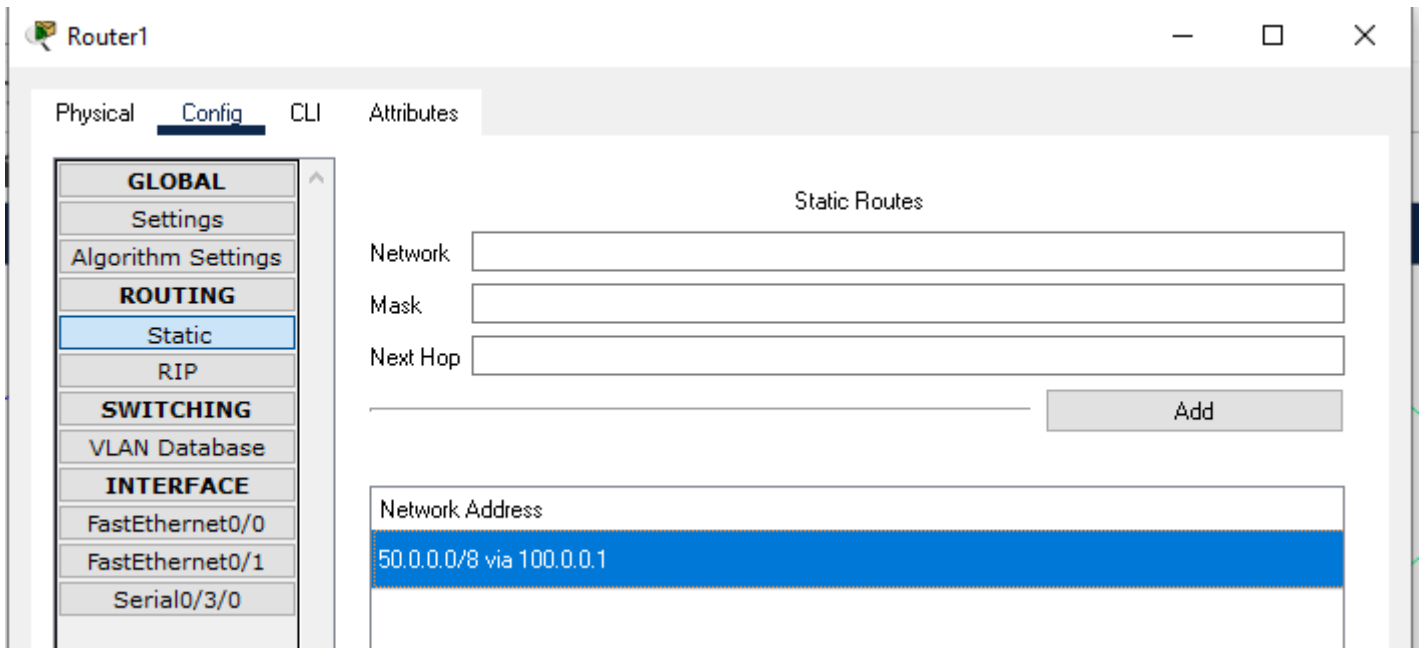
Router(config-if)#ip nat inside

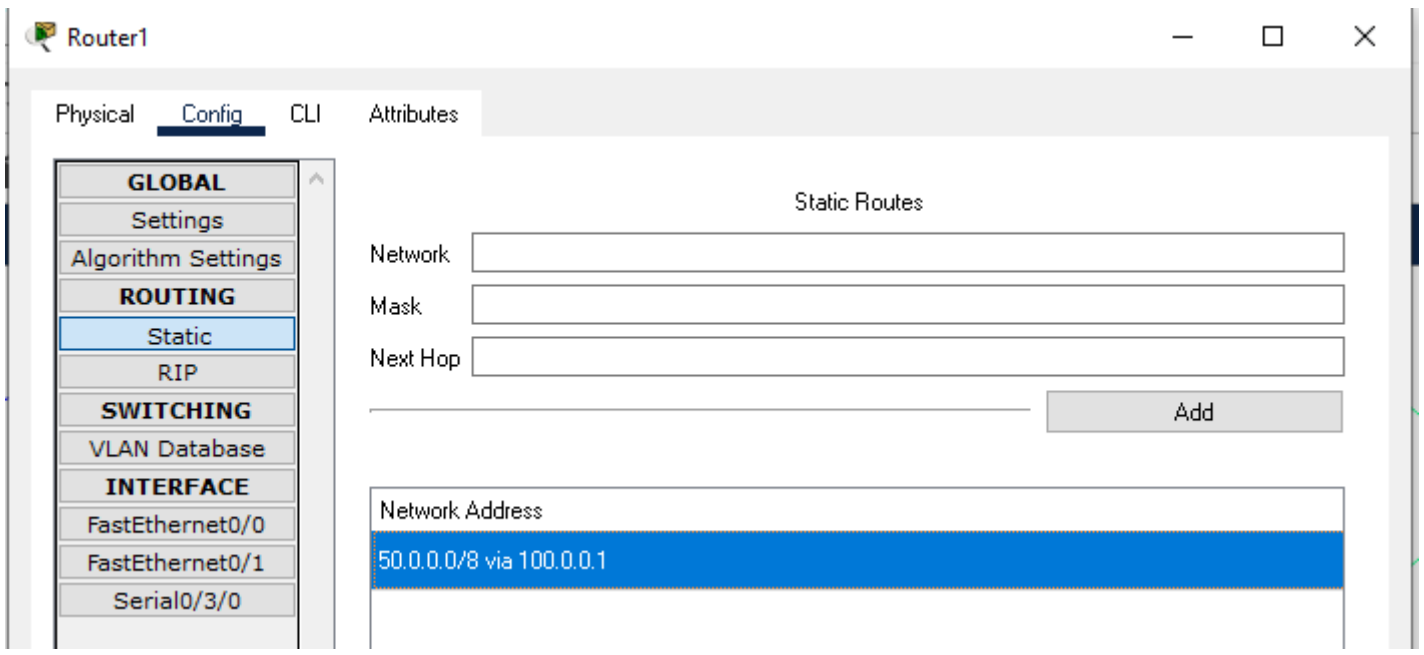
In third step we have to define which interface is connected with the global network. On both routers serial 0/0/0 interface is connected with the global network. Following command will define interface Serial0/0/0 as inside global.

Router(config-if)#ip nat outside

```
R1(config)#ip nat inside source static 10.0.0.10 50.0.0.10
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#interface Serial 0/0/0
R1(config-if)#ip nat outside
R1(config-if)#exit
```





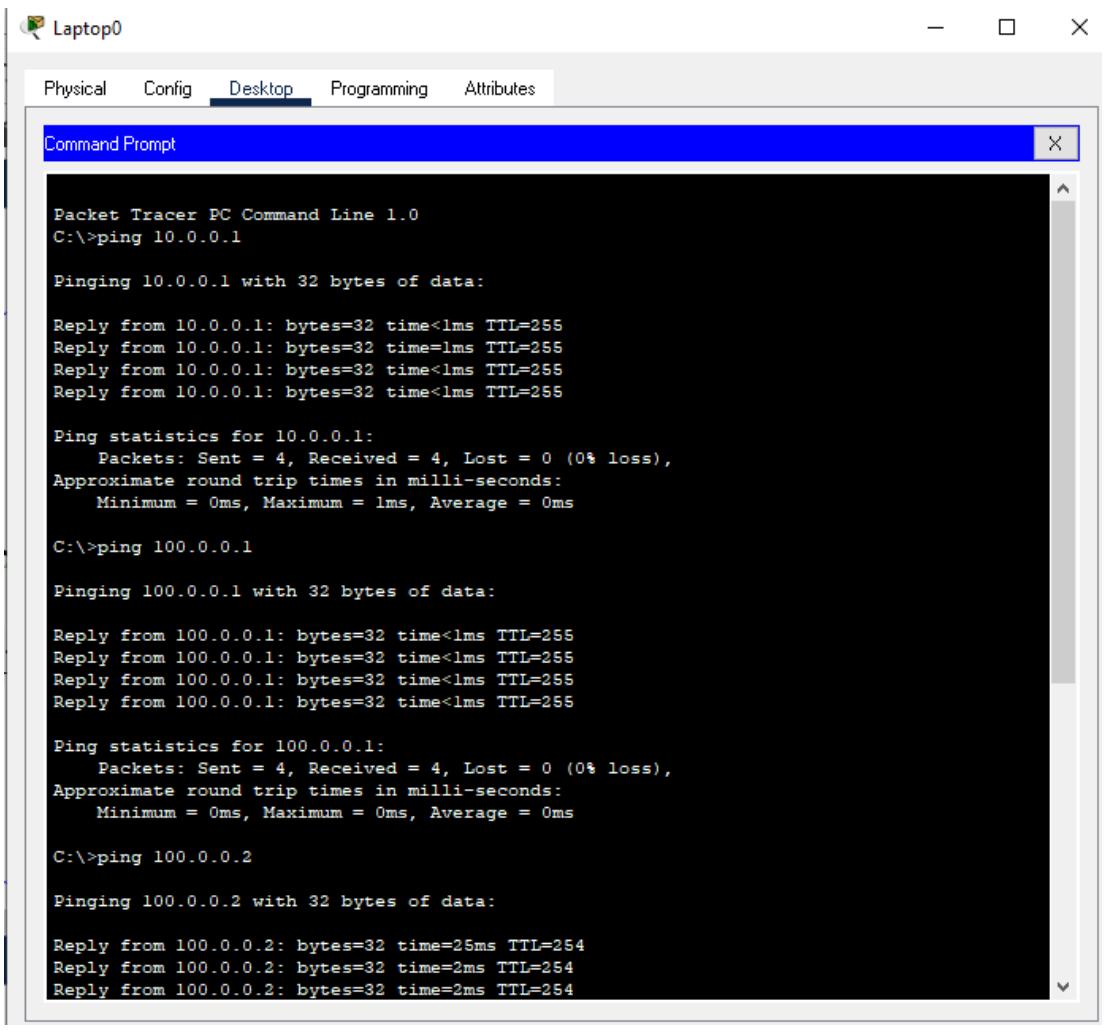


To test this setup click Laptop0 and Desktop and click Command Prompt.

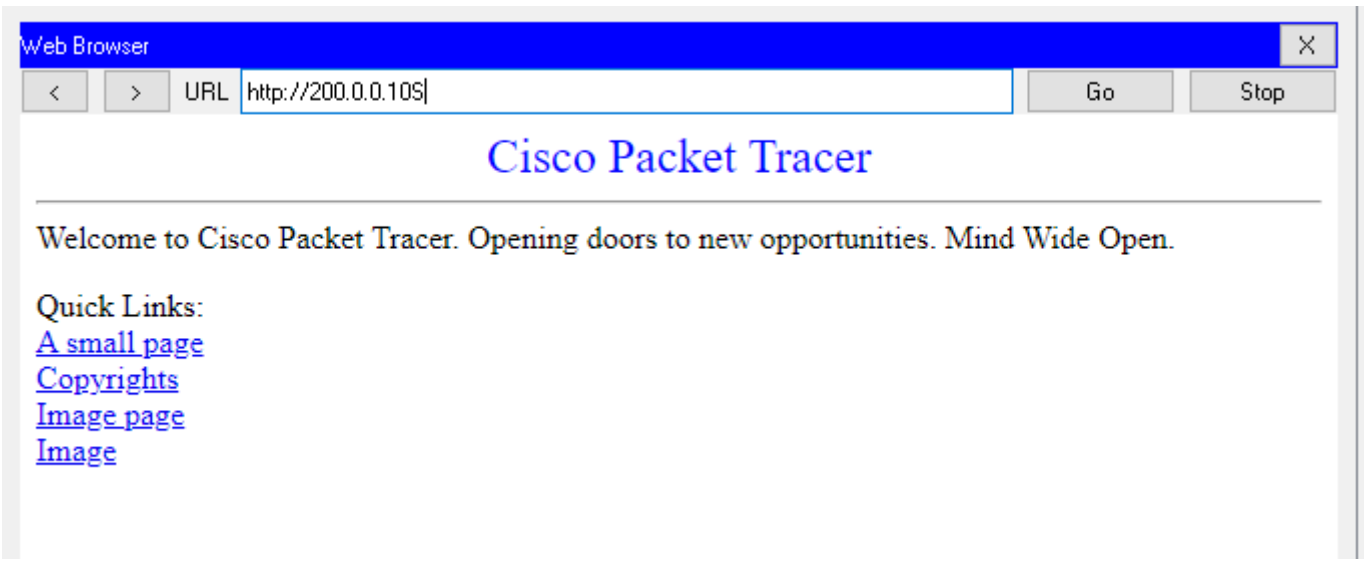
- Run ipconfig command.
- Run ping 200.0.0.10 command.
- Run ping 192.168.1.10 command.

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Connection-specific DNS Suffix..:
   Link-local IPv6 Address.....: FE80::2E0:8FFF:FE96:6168
   IPv6 Address.....: ::
   IPv4 Address.....: 10.0.0.10
   Subnet Mask.....: 255.0.0.0
   Default Gateway.....: ::
                                 10.0.0.1

Bluetooth Connection:

   Connection-specific DNS Suffix..:
   Link-local IPv6 Address.....: ::
   IPv6 Address.....: ::
   IPv4 Address.....: 0.0.0.0
   Subnet Mask.....: 0.0.0.0
   Default Gateway.....: ::
                                 0.0.0.0
```

```
C:\>ping 200.0.0.10

Pinging 200.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 200.0.0.10: bytes=32 time=14ms TTL=126
Reply from 200.0.0.10: bytes=32 time=2ms TTL=126
Reply from 200.0.0.10: bytes=32 time=2ms TTL=126

Ping statistics for 200.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 14ms, Average = 6ms
```



Let’s do one more testing. Click Laptop0 and click Desktop and click Web Browser and access 200.0.0.10.



Result:

The required code for the Implementation of NAT using Cisco Packet Tracer was written in the Cisco Packet Tracer environment and successfully executed.