

## Отчёт по практической работе 23

Землянский В. ИС223

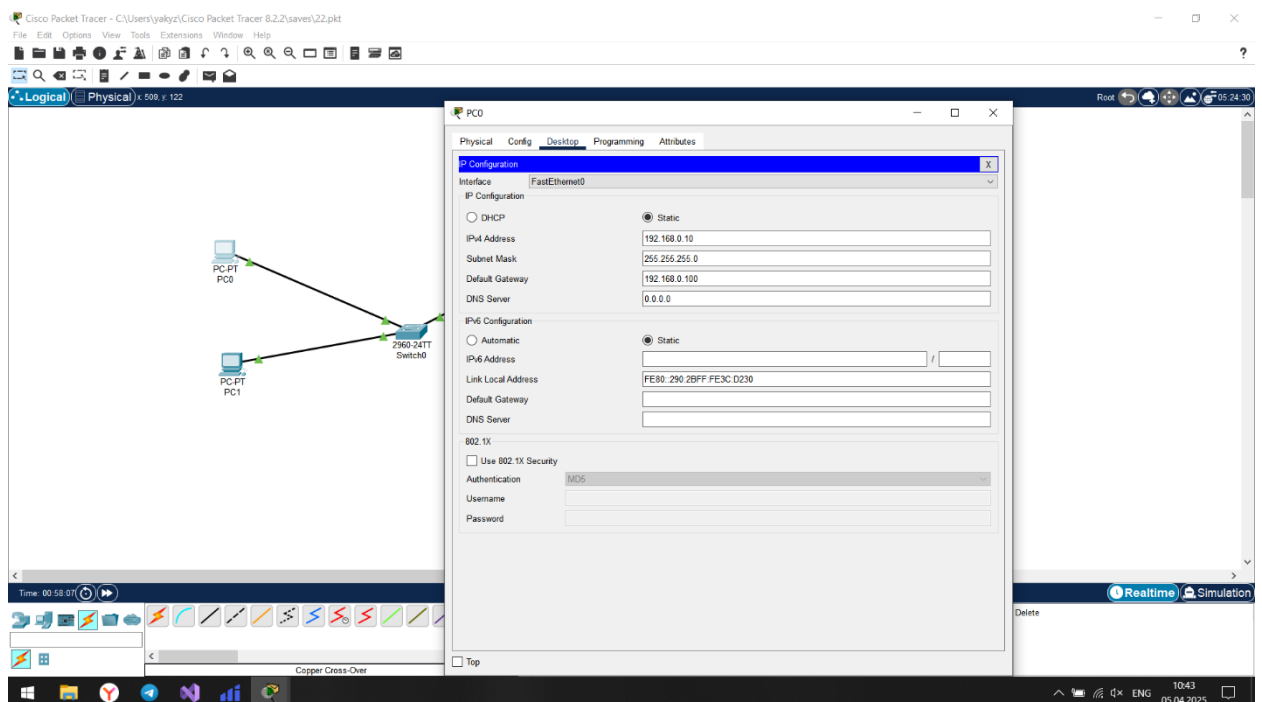
Цель работы: Настроить трансляцию сетевых адресов (nat) на маршрутизаторе для доступа из внутренней сети во внешнюю.

Ход выполнения работы:

- Создал схему сети с двумя маршрутизаторами: внутренний (router0) и внешний (router1).
- Подключил pc к внутреннему роутеру и настроил ip адрес: 192.168.0.1(2).
- Назначил ip адреса интерфейсам маршрутизаторов(на скрине).
- На router0 настроил nat:
  - Указал внутренние и внешние интерфейсы.
  - Создал access list для внутренней сети.
- Убедился что пинг с pc на внешний адрес (100.10.10.2) работает.
- Проверил nat таблицу на router0 с помощью команды show ip nat translations.

Победа

Скрины ниже:



Cisco Packet Tracer - C:\Users\yakyn\Cisco Packet Tracer 8.2.2\saves\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 460 / 798

Router3

Physical Config CLI Attributes

IOS Command Line Interface

```

Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 100.10.10.1 255.0.0.0
Router(config-if)#ip address 100.10.10.1 255.0.0.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
VLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
VLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#exit
Router#
Router#show ip nat translations

```

Pro	Inside global	Inside local	Outside local	Outside global
icmp	100.10.11.79:57	192.168.0.10:57	100.10.10.2:57	100.10.10.2:57
icmp	100.10.11.79:58	192.168.0.10:58	100.10.10.2:58	100.10.10.2:58
icmp	100.10.11.79:59	192.168.0.10:59	100.10.10.2:59	100.10.10.2:59
icmp	100.10.11.79:60	192.168.0.10:60	100.10.10.2:60	100.10.10.2:60
icmp	100.10.11.79:61	192.168.0.10:61	100.10.10.2:61	100.10.10.2:61
icmp	100.10.11.79:62	192.168.0.10:62	100.10.10.2:62	100.10.10.2:62
icmp	100.10.11.79:63	192.168.0.10:63	100.10.10.2:63	100.10.10.2:63
icmp	100.10.11.79:64	192.168.0.10:64	100.10.10.2:64	100.10.10.2:64

Router#

Copy Paste

Realtime Simulation

10:43 05.04.2025

Cisco Packet Tracer - C:\Users\yakyn\Cisco Packet Tracer 8.2.2\saves\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 430 / 475

Router3

Physical Config CLI Attributes

GLOBAL

Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IPv4 Address

Subnet Mask

Tx Ring Limit

10

Equivalent IOS Commands

```

Router#
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#

```

Router#

Router#

Router#configure terminal

Router(config)#interface FastEthernet0/0

Router(config-if)#

Realtime Simulation

10:44 05.04.2025

Cisco Packet Tracer - C:\Users\yaky\Cisco Packet Tracer 8.2.2\save\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 417 / 702

Router3

Physical Config CLI Attributes

GLOBAL Settings Algorithm Settings ROUTING Static SWITCHING VLAN Database INTERFACE

FastEthernet0/0

FastEthernet0/1

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0090 5C5A 2302

IP Configuration

IPv4 Address 100.10.10.1

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Equivalent IOS Commands

```
!comp 100.10.11.79:64 192.168.0.10:63 100.10.10.2:63 100.10.10.2:63
!comp 100.10.11.79:64 192.168.0.10:64 100.10.10.2:64 100.10.10.2:64

Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
```

Time: 00:59:01

Copper Cross-Over

Realtime Simulation

Delete

10:44 05.04.2025

Cisco Packet Tracer - C:\Users\yaky\Cisco Packet Tracer 8.2.2\save\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 442 / 49

Router4

Physical Config CLI Attributes

GLOBAL Settings Algorithm Settings ROUTING Static SWITCHING VLAN Database INTERFACE

FastEthernet0/0

FastEthernet0/1

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0090 21ED 5101

IP Configuration

IPv4 Address 100.10.10.2

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
```

Time: 00:59:18

Copper Cross-Over

Realtime Simulation

Delete

10:44 05.04.2025

Cisco Packet Tracer - C:\Users\yaky\ Cisco Packet Tracer 8.2.2\save\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 433 / 160

PC0  
PC1  
2960-24TT Switch0

Time: 00:59:29

Command Prompt

```
Ping statistics for 100.10.10.2:  
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),  
C:\>ping 100.10.10.2  
Pinging 100.10.10.2 with 32 bytes of data:  
Request timed out.  
Request timed out.  
Request timed out.  
Request timed out.  
Ping statistics for 100.10.10.2:  
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),  
C:\>ping 100.10.10.2  
Pinging 100.10.10.2 with 32 bytes of data:  
Request timed out.  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Ping statistics for 100.10.10.2:  
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms  
C:\>ping 100.10.10.2  
Pinging 100.10.10.2 with 32 bytes of data:  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Ping statistics for 100.10.10.2:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 2ms  
C:\>
```

Realtime Simulation

10:44 05.04.2025

Cisco Packet Tracer - C:\Users\yaky\ Cisco Packet Tracer 8.2.2\save\22.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical 490 / 345

PC0  
PC1  
2960-24TT Switch0

Time: 00:59:46

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0  
C:\>ping 100.10.10.2  
Pinging 100.10.10.2 with 32 bytes of data:  
Request timed out.  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Reply from 100.10.10.2: bytes=32 time=2ms TTL=254  
Ping statistics for 100.10.10.2:  
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms  
C:\>
```

Realtime Simulation

10:44 05.04.2025