

Урок 8. Прикладной уровень

1. Настроить сеть согласно информации на схеме. <https://disk.yandex.ru/d/Vaxkf2X0RG9NGw>
Сымитировать "Интернет" с помощью OSPF. Приватных сетей в маршрутизации быть не должно.

Для компьютеров из Office 1 предоставить доступ в "Интернет" с помощью PAT.

Открыть доступ из "Интернета" к серверам из Office 2 с помощью Port Forwarding.

Для компьютеров из Office 1 должны открываться разные сайты по HTTP и HTTPS из Office 2 по одному доменному имени.

Предоставить скриншоты открытых разных сайтов по одному доменному имени.

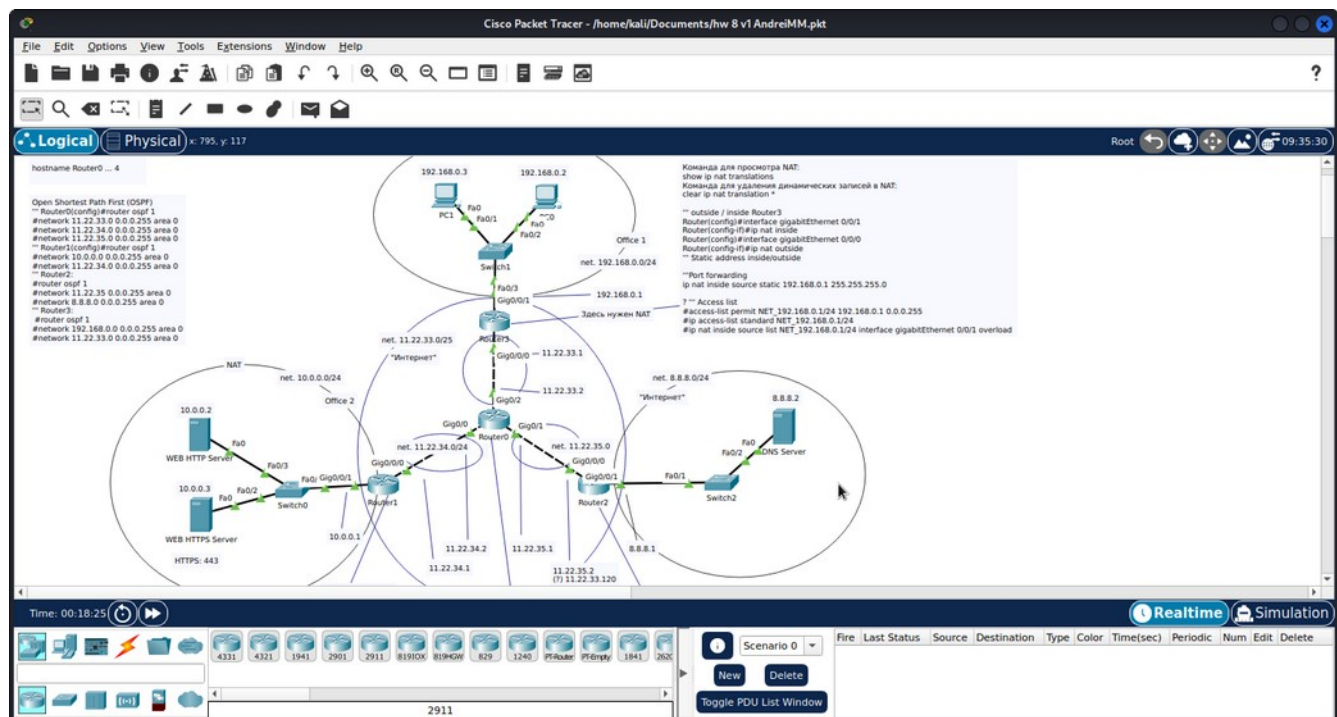
Предоставить скриншот таблицы NAT трансляций с Router3.

Предоставить скриншот таблицы маршрутизации с Router0.

Предоставить настроенный файл ФИО.pkt

Файл homework 8 v1 AndreiMM.pkt загружен

Настроить сеть согласно информации на схеме ...



- ping 8.8.8.2 (from PC1 ... WEB HTTP Server)
- tracer 8.8.8.2 (from PC1 ... WEB HTTP Server)

Logical Physical x: 792, y: 152

hostname Router0 ... 4

Open Shortest Path First (OSPF)
 ~~~ Router0(config)#router ospf 1  
 #network 11.22.33.0 0.0.0.255 area 0  
 #network 11.22.34.0 0.0.0.255 area 0  
 ~~~ Router1(config)#router ospf 1  
 #network 10.0.0.0 0.0.0.255 area 0
 #network 11.22.34.0 0.0.0.255 area 0
 ~~~ Router2  
 #router ospf 1  
 #network 11.22.35.0 0.0.0.255 area 0  
 #network 8.8.8.0 0.0.0.255 area 0  
 ~~~ Router3  
 #router ospf 1
 #network 192.168.0.0 0.0.0.255 area 0
 #network 11.22.33.0 0.0.0.255 area 0

Команда для просмотра NAT:
 show ip nat translations
 Команда для удаления данных
 clear ip nat translation *

~~~ outside / inside Router3  
 Router(config)#interface gigabitEthernet0/0  
 Router(config-if)#ip nat inside  
 Router(config-if)#ip nat outside  
 ~~~ Static address inside/outside  
 Router(config)#ip nat inside source static tcp 10.0.0.2 443 192.168.0.1 80

Tracing route to 8.8.8.2 over a maximum of 30 hops:

| Hop | 0 | 1 | 2 | 3 | 4 |
|------|------|-------|-------|---------|------------|
| 0 ms | 0 ms | 0 ms | 0 ms | 10 ms | 0.1 |
| 2 | 0 ms | 0 ms | 0 ms | 0 ms | 11.22.34.2 |
| 3 | 0 ms | 0 ms | 0 ms | 0 ms | 11.22.35.2 |
| 4 | 0 ms | 10 ms | 11 ms | 8.8.8.2 | |

Trace complete.

C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Reply from 192.168.0.3: bytes=32 time=10ms TTL=125
 Reply from 192.168.0.3: bytes=32 time=1ms TTL=125
 Reply from 192.168.0.3: bytes=32 time=10ms TTL=125
 Reply from 192.168.0.3: bytes=32 time=1ms TTL=125

Ping statistics for 192.168.0.3:
 Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
 Approximate round trip times in milli-seconds:
 Minimum = 0ms, Maximum = 10ms, Average = 5ms

Logical Physical x: 1159, y: 615

hostname Router0 ... 4

Open Shortest Path First (OSPF)
 ~~~ Router0(config)#router ospf 1  
 #network 11.22.33.0 0.0.0.255 area 0  
 #network 11.22.34.0 0.0.0.255 area 0  
 ~~~ Router1(config)#router ospf 1  
 #network 10.0.0.0 0.0.0.255 area 0
 #network 11.22.34.0 0.0.0.255 area 0
 ~~~ Router2  
 #router ospf 1  
 #network 11.22.35.0 0.0.0.255 area 0  
 #network 8.8.8.0 0.0.0.255 area 0  
 ~~~ Router3  
 #router ospf 1
 #network 192.168.0.0 0.0.0.255 area 0
 #network 11.22.33.0 0.0.0.255 area 0

Команда для просмотра NAT:
 show ip nat translations
 Команда для удаления данных
 clear ip nat translation *

~~~ outside / inside Router3  
 Router(config)#interface gigabitEthernet0/0  
 Router(config-if)#ip nat inside  
 Router(config-if)#ip nat outside  
 ~~~ Static address inside/outside  
 Router(config)#ip nat inside source static tcp 10.0.0.2 443 192.168.0.1 80

Tracing route to 8.8.8.2 over a maximum of 30 hops:

| Hop | 0 | 1 | 2 | 3 | 4 |
|------|-------|-------|-------|-------------|---|
| 0 ms | 0 ms | 0 ms | 0 ms | 192.168.0.1 | |
| 2 | 0 ms | 0 ms | 0 ms | 11.22.33.2 | |
| 3 | 0 ms | 0 ms | 10 ms | 11.22.34.1 | |
| 4 | 10 ms | 10 ms | 0 ms | 10.0.0.2 | |

Trace complete.

C:\>tracert 8.8.8.2

Tracing route to 8.8.8.2 over a maximum of 30 hops:

| Hop | 0 | 1 | 2 | 3 | 4 |
|------|-------|------|------|-------------|---|
| 0 ms | 0 ms | 0 ms | 0 ms | 192.168.0.1 | |
| 2 | 0 ms | 1 ms | 1 ms | 11.22.33.2 | |
| 3 | 0 ms | 0 ms | 0 ms | 11.22.35.2 | |
| 4 | 10 ms | 0 ms | 0 ms | 8.8.8.2 | |

Trace complete.

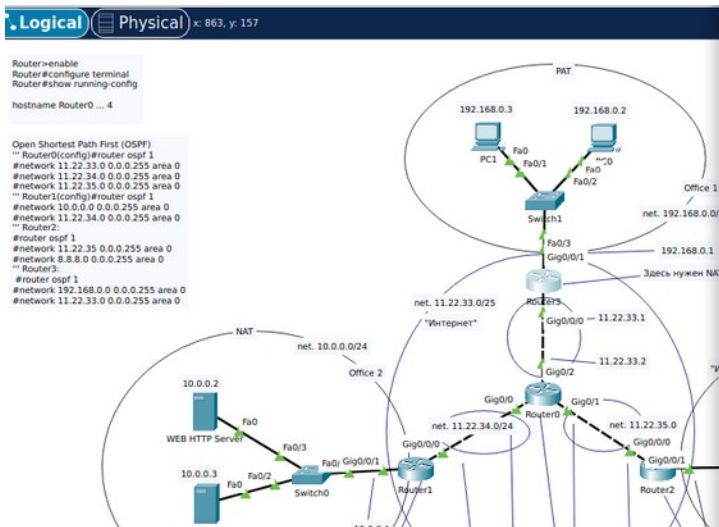
C:\>ping 8.8.8.2

Pinging 8.8.8.2 with 32 bytes of data:

Reply from 8.8.8.2: bytes=32 time=1ms TTL=125
 Reply from 8.8.8.2: bytes=32 time=1ms TTL=125
 Reply from 8.8.8.2: bytes=32 time=1ms TTL=125
 Reply from 8.8.8.2: bytes=32 time=1ms TTL=125

Ping statistics for 8.8.8.2:
 Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
 Approximate round trip times in milli-seconds:
 Minimum = 0ms, Maximum = 1ms, Average = 0ms

- *show ip route (Router3)*
- *show ip nat translations (Router3)*
- *show ip route (Router0)*



IOS Command Line Interface

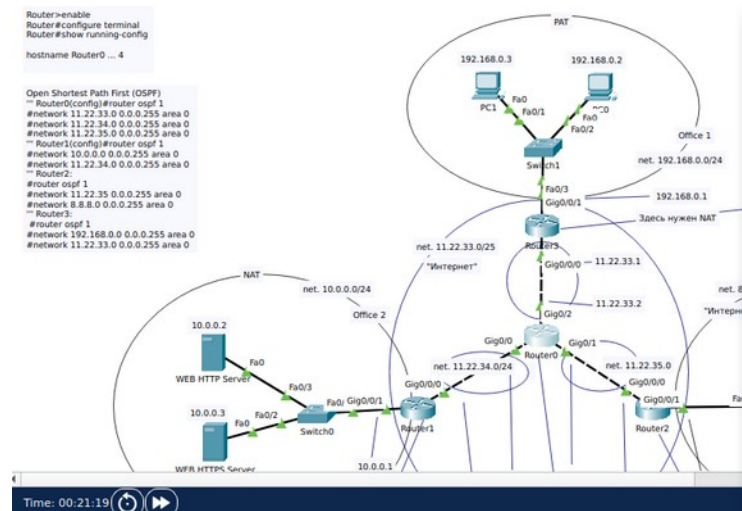
```
Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - 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 not set

8.0.0.0/24 is subnetted, 1 subnets
O   8.8.8.0/24 [110/3] via 11.22.33.2, 00:18:39, GigabitEthernet0/0/0
10.0.0.0/24 is subnetted, 1 subnets
O   10.0.0.0/24 [110/3] via 11.22.33.2, 00:18:39, GigabitEthernet0/0/0
11.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
C   11.22.33.0/24 is directly connected, GigabitEthernet0/0/0
C   11.22.33.1/32 is directly connected, GigabitEthernet0/0/0
O   11.22.34.0/24 [110/2] via 11.22.33.2, 00:18:39, GigabitEthernet0/0/0
O   11.22.35.0/24 [110/2] via 11.22.33.2, 00:18:49, GigabitEthernet0/0/0
C   192.168.0.0/24 is variably subnetted, 2 subnets, 2 masks
C   192.168.0.0/24 is directly connected, GigabitEthernet0/0/1
L   192.168.0.1/32 is directly connected, GigabitEthernet0/0/1

Router#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
--- 255.255.255.0      192.168.0.1      ---                ---

Router#
Router#
Router#
Router#
```



Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
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 not set

8.0.0.0/24 is subnetted, 1 subnets
O   8.8.8.0/24 [110/2] via 11.22.35.2, 00:19:40, GigabitEthernet0/1
10.0.0.0/24 is subnetted, 1 subnets
O   10.0.0.0/24 [110/2] via 11.22.34.1, 00:19:40, GigabitEthernet0/0
11.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
C   11.22.33.0/24 is directly connected, GigabitEthernet0/2
L   11.22.33.2/32 is directly connected, GigabitEthernet0/2
C   11.22.34.0/24 is directly connected, GigabitEthernet0/0
L   11.22.34.2/32 is directly connected, GigabitEthernet0/0
C   11.22.35.0/24 is directly connected, GigabitEthernet0/1
L   11.22.35.1/32 is directly connected, GigabitEthernet0/1
O   192.168.0.0/24 [110/2] via 11.22.33.1, 00:19:40, GigabitEthernet0/2

Router#sho
Router#show ip nat
Router#show ip nat tra
Router#show ip nat translations
```