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Факультет компьютерных систем и сетей
Кафедра электронных вычислительных машин
Дисциплина: Администрирование компьютерных сетей

Отчет по лабораторной работе № 3
на тему
“Реализация маршрутизации IPv4”
Вариант 11

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Минск 2024

1 ПРАКТИЧЕСКАЯ ЧАСТЬ 1

1.1 Рабочая конфигурация Router 1

```
ip classless
ip route 0.0.0.0 0.0.0.0 90.32.0.2
ip route 107.3.38.208 255.255.255.240 9.192.0.2
ip route 152.1.216.0 255.255.252.0 58.125.8.2
ip route 171.80.24.0 255.255.252.0 58.125.8.2
ip route 190.123.192.0 255.255.248.0 58.125.8.2
ip route 192.168.0.0 255.255.0.0 58.125.8.2
ip route 197.18.46.32 255.255.255.224 58.125.8.2
```

1.2 Рабочая конфигурация Router 2

```
ip classless
ip route 0.0.0.0 0.0.0.0 137.81.76.1
ip route 58.125.8.0 255.255.248.0 9.192.0.1
ip route 152.1.216.0 255.255.252.0 107.3.38.209
ip route 190.123.192.0 255.255.248.0 9.192.0.1
ip route 171.80.24.0 255.255.252.0 9.192.0.1
ip route 197.18.46.32 255.255.255.224 107.3.38.209
ip route 192.168.0.0 255.255.0.0 107.3.38.209
```

1.3 Рабочая конфигурация Router 3

```
ip classless
ip route 0.0.0.0 0.0.0.0 152.1.216.2
ip route 9.192.0.0 255.192.0.0 107.3.38.210
ip route 90.32.0.0 255.224.0.0 107.3.38.210
ip route 137.81.76.0 255.255.252.0 107.3.38.210
ip route 10.0.0.0 255.0.0.0 107.3.38.210
```

1.4 Рабочая конфигурация Router 4

```
ip classless
ip route 0.0.0.0 0.0.0.0 190.123.192.2
ip route 9.192.0.0 255.192.0.0 58.125.8.1
ip route 90.32.0.0 255.224.0.0 58.125.8.1
ip route 137.81.76.0 255.255.252.0 58.125.8.1
ip route 10.0.0.0 255.0.0.0 58.125.8.1
```

1.5 Рабочая конфигурация Router 5

```
ip classless  
ip route 0.0.0.0 0.0.0.0 197.18.46.34
```

1.6 Рабочая конфигурация Router 6

```
ip classless  
ip route 9.192.0.0 255.192.0.0 137.81.76.2  
ip route 58.125.8.0 255.255.248.0 90.32.0.1  
ip route 107.3.38.208 255.255.255.240 137.81.76.2  
ip route 152.1.216.0 255.255.252.0 137.81.76.2  
ip route 171.80.24.0 255.255.252.0 90.32.0.1  
ip route 190.123.192.0 255.255.248.0 90.32.0.1  
ip route 197.18.46.32 255.255.255.224 137.81.76.2  
ip route 192.168.0.0 255.255.0.0 137.81.76.2
```

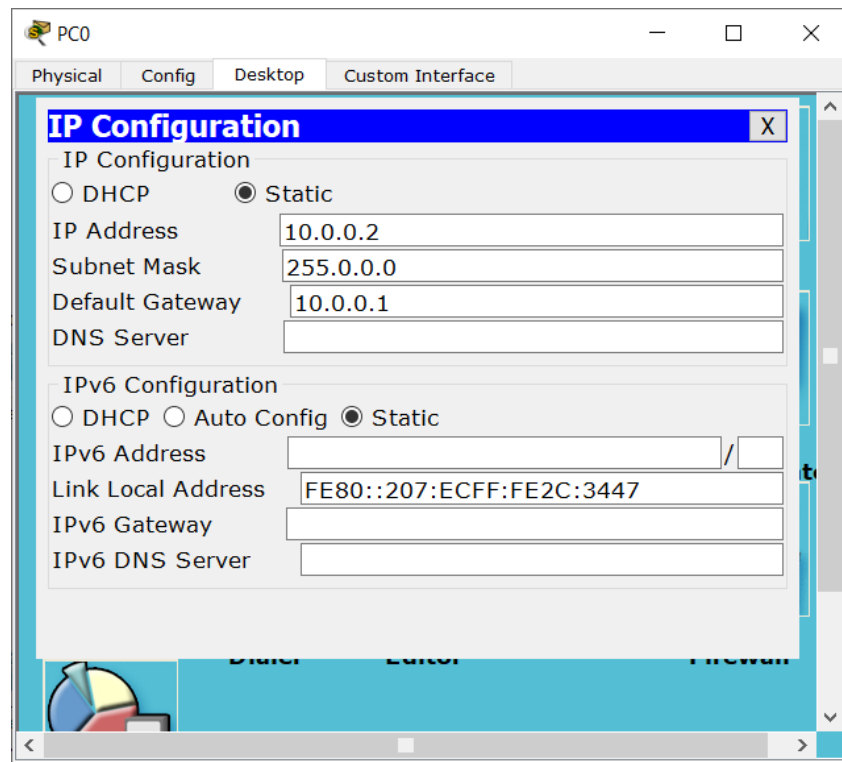
1.7 Рабочая конфигурация Router 7

```
ip classless  
ip route 9.192.0.0 255.192.0.0 152.1.216.1  
ip route 58.125.8.0 255.255.248.0 190.123.192.1  
ip route 90.32.0.0 255.224.0.0 190.123.192.1  
ip route 107.3.38.208 255.255.255.240 152.1.216.1  
ip route 137.81.76.0 255.255.252.0 152.1.216.1  
ip route 171.80.24.0 255.255.252.0 190.123.192.1  
ip route 10.0.0.0 255.0.0.0 152.1.216.1  
ip route 192.168.0.0 255.255.0.0 197.18.46.33
```

1.8 Рабочая конфигурация Router 8

```
ip classless  
ip route 0.0.0.0 0.0.0.0 171.80.24.1
```

1.9 IP Configuration PC0

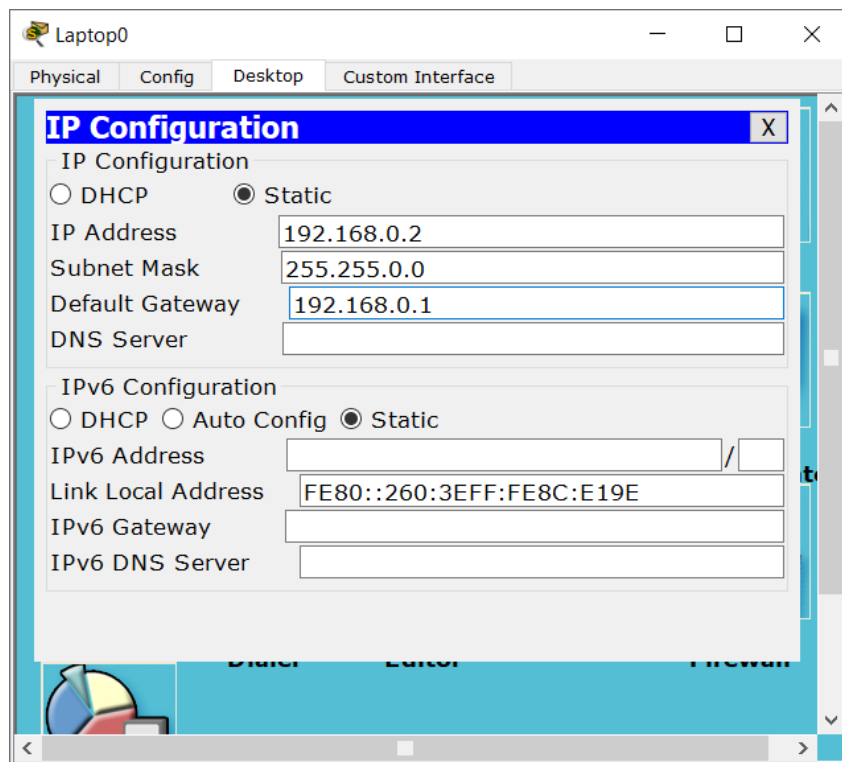


The screenshot shows the 'IP Configuration' window for PC0. The window has tabs for 'Physical', 'Config', 'Desktop', and 'Custom Interface'. The 'Config' tab is active. The 'IP Configuration' section has two sub-sections: 'IP Configuration' and 'IPv6 Configuration'. In the 'IP Configuration' section, the 'Static' radio button is selected. The fields are filled with: IP Address: 10.0.0.2, Subnet Mask: 255.0.0.0, Default Gateway: 10.0.0.1, and DNS Server: (empty). In the 'IPv6 Configuration' section, the 'Static' radio button is selected. The fields are filled with: IPv6 Address: (empty), Link Local Address: FE80::207:ECFF:FE2C:3447, IPv6 Gateway: (empty), and IPv6 DNS Server: (empty).

IP Configuration	
<input type="radio"/> DHCP <input checked="" type="radio"/> Static	
IP Address	10.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	10.0.0.1
DNS Server	

IPv6 Configuration	
<input type="radio"/> DHCP <input type="radio"/> Auto Config <input checked="" type="radio"/> Static	
IPv6 Address	
Link Local Address	FE80::207:ECFF:FE2C:3447
IPv6 Gateway	
IPv6 DNS Server	

1.10 IP Configuration Laptop0



The screenshot shows the 'IP Configuration' window for Laptop0. The window has tabs for 'Physical', 'Config', 'Desktop', and 'Custom Interface'. The 'Config' tab is active. The 'IP Configuration' section has two sub-sections: 'IP Configuration' and 'IPv6 Configuration'. In the 'IP Configuration' section, the 'Static' radio button is selected. The fields are filled with: IP Address: 192.168.0.2, Subnet Mask: 255.255.0.0, Default Gateway: 192.168.0.1, and DNS Server: (empty). In the 'IPv6 Configuration' section, the 'Static' radio button is selected. The fields are filled with: IPv6 Address: (empty), Link Local Address: FE80::260:3EFF:FE8C:E19E, IPv6 Gateway: (empty), and IPv6 DNS Server: (empty).

IP Configuration	
<input type="radio"/> DHCP <input checked="" type="radio"/> Static	
IP Address	192.168.0.2
Subnet Mask	255.255.0.0
Default Gateway	192.168.0.1
DNS Server	

IPv6 Configuration	
<input type="radio"/> DHCP <input type="radio"/> Auto Config <input checked="" type="radio"/> Static	
IPv6 Address	
Link Local Address	FE80::260:3EFF:FE8C:E19E
IPv6 Gateway	
IPv6 DNS Server	

2 ПРАКТИЧЕСКАЯ ЧАСТЬ 2

Команда для добавления маршрута на Windows:

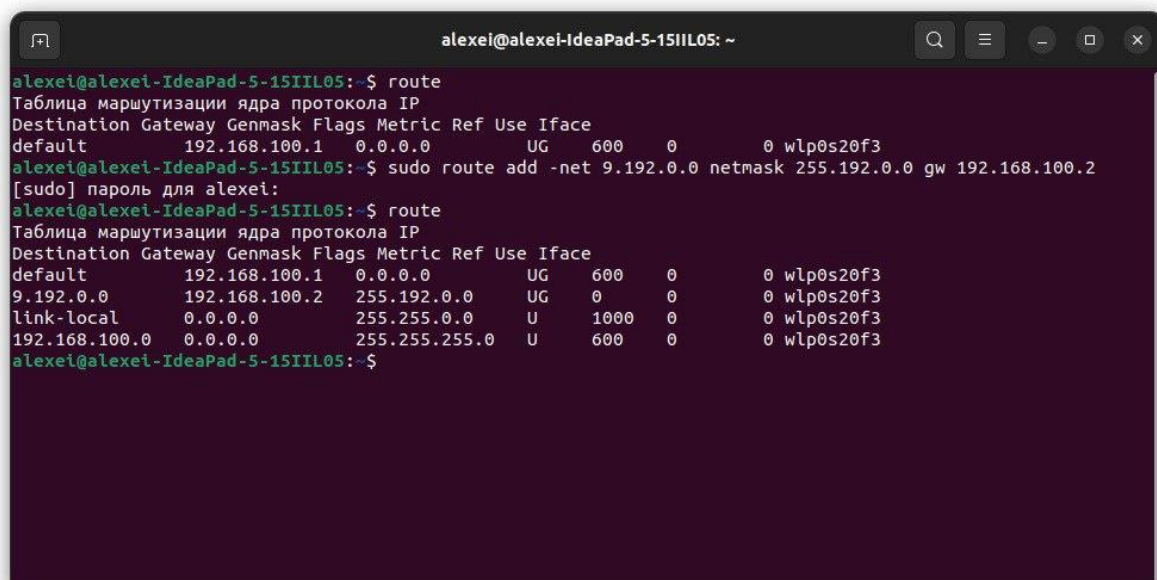
```
route add 9.192.0.2 mask 255.255.255.255 192.168.100.100
```

```
IPv4 таблица маршрута
=====
Активные маршруты:
Сетевой адрес      Маска сети      Адрес шлюза      Интерфейс      Метрика
0.0.0.0            0.0.0.0        192.168.100.1    192.168.100.5    55
9.192.0.0          255.192.0.0    On-link          9.192.255.254    281
9.192.0.2          255.255.255.255 192.168.100.100  192.168.100.5    56
9.192.255.254      255.255.255.255 On-link          9.192.255.254    281
9.255.255.255      255.255.255.255 On-link          9.192.255.254    281
127.0.0.0          255.0.0.0      On-link          127.0.0.1        331
127.0.0.1          255.255.255.255 On-link          127.0.0.1        331
127.255.255.255    255.255.255.255 On-link          127.0.0.1        331
192.168.100.0      255.255.255.0  On-link          192.168.100.5    311
192.168.100.5      255.255.255.255 On-link          192.168.100.5    311
192.168.100.255    255.255.255.255 On-link          192.168.100.5    311
224.0.0.0          240.0.0.0      On-link          127.0.0.1        331
224.0.0.0          240.0.0.0      On-link          9.192.255.254    281
224.0.0.0          240.0.0.0      On-link          192.168.100.5    311
255.255.255.255    255.255.255.255 On-link          127.0.0.1        331
255.255.255.255    255.255.255.255 On-link          9.192.255.254    281
255.255.255.255    255.255.255.255 On-link          192.168.100.5    311
=====
Постоянные маршруты:
Отсутствует
```

3 ПРАКТИЧЕСКАЯ ЧАСТЬ 3

Команд для добавления маршрута на Linux:

```
sudo route add -net 9.192.0.0 netmask 255.192.0.0 gw 192.168.100.2
```



```
alexei@alexei-IdeaPad-5-15IIL05: ~  
alexei@alexei-IdeaPad-5-15IIL05:~$ route  
Таблица маршрутизации ядра протокола IP  
Destination Gateway Genmask Flags Metric Ref Use Iface  
default      192.168.100.1 0.0.0.0      UG    600      0      0 wlp0s20f3  
alexei@alexei-IdeaPad-5-15IIL05:~$ sudo route add -net 9.192.0.0 netmask 255.192.0.0 gw 192.168.100.2  
[sudo] пароль для alexei:  
alexei@alexei-IdeaPad-5-15IIL05:~$ route  
Таблица маршрутизации ядра протокола IP  
Destination Gateway Genmask Flags Metric Ref Use Iface  
default      192.168.100.1 0.0.0.0      UG    600      0      0 wlp0s20f3  
9.192.0.0    192.168.100.2 255.192.0.0  UG    0        0      0 wlp0s20f3  
link-local   0.0.0.0        255.255.0.0  U      1000     0      0 wlp0s20f3  
192.168.100.0 0.0.0.0        255.255.255.0 U      600      0      0 wlp0s20f3  
alexei@alexei-IdeaPad-5-15IIL05:~$
```

РАБОЧИЕ МАТЕРИАЛЫ

