

Министерство науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение
высшего образования
«Вятский государственный университет»
Колледж ВятГУ

ОТЧЕТ
ПО ЛАБОРАТОРНОЙ РАБОТЕ №8
«Построение КС с подсетями при помощи программы Net-Simulator»
«Компьютерные сети»

Выполнил: студент учебной группы
ИСПк-202-52-00
Машинина Алиса Алексеевна

Преподаватель:
Шахторин Илья Дмитриевич

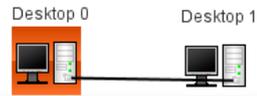
Киров
2023

Цель работы – изучить функционал программы **Net-Simulator**. И построить несколько компьютерных сетей с подсетями.

Задание:

1. Изучить теоретический материал
2. Построить компьютерные сети с подсетями

Задание 1





```
Терминал - Desktop 0
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:2:0
      inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:0 errors:0 dropped:0
      TX packets:0 errors:0 dropped:0
      RX bytes:0 TX bytes:0

=>|
```

```
Терминал - Desktop 1
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:8:0
      inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:0 errors:0 dropped:0
      TX packets:0 errors:0 dropped:0
      RX bytes:0 TX bytes:0

=>|
```



```
NET-Simulator
Проект Устройства Сервис
Помощь

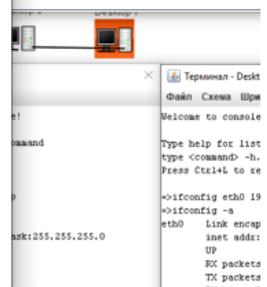
Desktop 0 Desktop 1

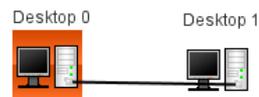
Терминал - Desktop 1
Файл Схема Шрифт

=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:8:0
      inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:0 errors:0 dropped:0
      TX packets:0 errors:0 dropped:0
      RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=234 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=8 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=9 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=10 ttl=63 time=0 ms

=>|
```





```

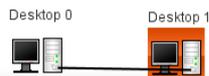
Терминал - Desktop 0
Файл Схема Шрифт
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:2:0
        inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
        UP
        RX packets:0 errors:0 dropped:0
        TX packets:0 errors:0 dropped:0
        RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=8 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=9 ttl=63 time=0 ms
=>
  
```

```

Терминал - Desktop 1
Файл Схема Шрифт
=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:8:0
        inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:
        UP
  
```



```

Терминал - Desktop 0
Файл Схема Шрифт
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:2:0
        inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
        UP
        RX packets:0 errors:0 dropped:0
        TX packets:0 errors:0 dropped:0
        RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=8 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=9 ttl=63 time=0 ms
=>
  
```

```

Терминал - Desktop 1
Файл Схема Шрифт
=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:8:0
        inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
        UP
        RX packets:0 errors:0 dropped:0
        TX packets:0 errors:0 dropped:0
        RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=234 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=8 ttl=63 time=0 ms
=>
  
```

NET-Simulator

Проект Устройства Сервис



Desktop 0 Desktop 1

```
Терминал - Desktop 0
Файл Схема Шрифт

TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=8 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=9 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:2:0
       inet addr:192.168.1.1 Bcast:192.168.1.255 Mask:255.255.255.0
       UP
       RX packets:25 errors:0 dropped:0
       TX packets:25 errors:0 dropped:0
       RX bytes:0 TX bytes:0
```

=>ping 192.168.1.1
PING 192.168.1.1

NET-Simulator

Проект Устройства Сервис

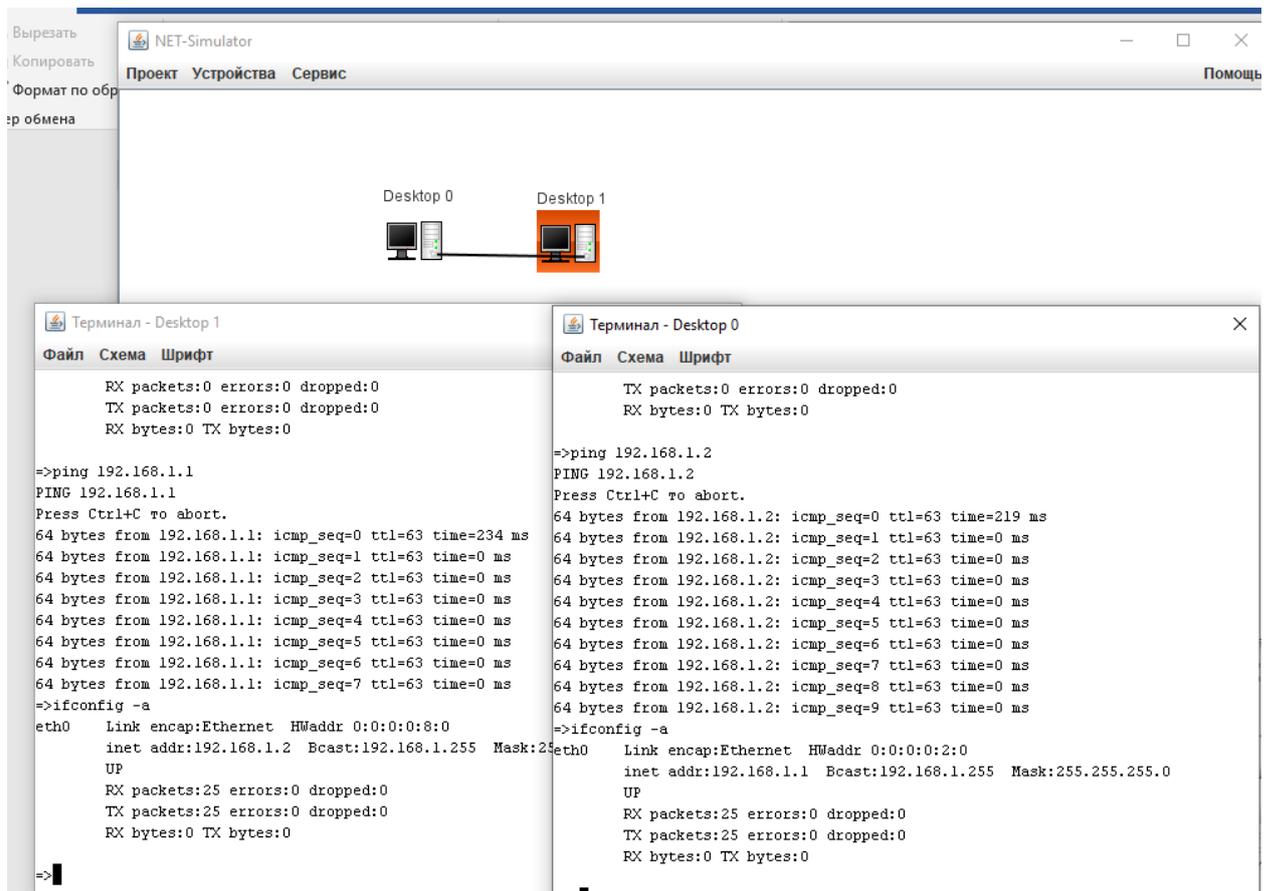


Desktop 0 Desktop 1

```
Терминал - Desktop 1
Файл Схема Шрифт

RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=234 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:8:0
       inet addr:192.168.1.2 Bcast:192.168.1.255 Mask:255.255.255.0
       UP
       RX packets:25 errors:0 dropped:0
       TX packets:25 errors:0 dropped:0
       RX bytes:0 TX bytes:0
```



Пакеты не потеряны

Задание 2

Сеть в NET-Simulator

```

ent.processEvent(Unknown Source)
ner.processEvent(Unknown Source)
ent.dispatchEventImpl(Unknown Source)
ner.dispatchEventImpl(Unknown Source)
ent.dispatchEvent(Unknown Source)
ner.dispatchEvent(Unknown Source)
weightDispatcher.retargetMouseEvent(Unknown Source)
weightDispatcher.processMouseEvent(Unknown Source)
weightDispatcher.dispatchEvent(Unknown Source)
ner.dispatchEventImpl(Unknown Source)
ent.dispatchEventImpl(Unknown Source)
ent.dispatchEvent(Unknown Source)

```

```

Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

->ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:2:0
       inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
       UP
       RX packets:0 errors:0 dropped:0
       TX packets:0 errors:0 dropped:0
       RX bytes:0 TX bytes:0

Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

->ifconfig 192.168.1.2 -netmask 255.255.255.0 -up
Error: No such interface: 192.168.1.2
=>ifconfig etn0 192.168.1.2. -netmask 255.255.255.0 -up
Error: No such interface: etn0
=>ifconfig eth 0 192.168.1.2. -netmask 255.255.255.0 -up
Error: No such interface: eth
=>ifconfig eth0 192.168.1.2. -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:8:0
       inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
       UP
       RX packets:0 errors:0 dropped:0
       TX packets:0 errors:0 dropped:0
       RX bytes:0 TX bytes:0

Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

->ifconfig eth0 192.168.1.3 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:14:0
       inet addr:192.168.1.3  Bcast:192.168.1.255  Mask:255.255.255.0
       UP
       RX packets:0 errors:0 dropped:0
       TX packets:0 errors:0 dropped:0
       RX bytes:0 TX bytes:0

```

Передача с 1 на 2

Сеть в NET-Simulator

```

Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

->ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:2:0
       inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
       UP
       RX packets:0 errors:0 dropped:0
       TX packets:0 errors:0 dropped:0
       RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:2:0
       inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
       UP
       RX packets:10 errors:0 dropped:0
       TX packets:10 errors:0 dropped:0
       RX bytes:0 TX bytes:0

=>

```

Со 2 на 3

Diagram description: A central HUB 3 is connected to three desktops: Desktop 0 (top left), Desktop 1 (top right), and Desktop 2 (bottom center). Each desktop is represented by a computer icon with a monitor and keyboard.

```

Терминал - Desktop 1
Файл  Схема  Шрифт
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.3
PING 192.168.1.3
Press Ctrl+C to abort.
64 bytes from 192.168.1.3: icmp_seq=0 ttl=63 time=109 ms
64 bytes from 192.168.1.3: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=8 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:0:0
      inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:20 errors:0 dropped:0
      TX packets:20 errors:0 dropped:0
      RX bytes:0 TX bytes:0
=>

```

С 3 на 1

Diagram description: A central HUB 3 is connected to three desktops: Desktop 0 (top left), Desktop 1 (top right), and Desktop 2 (bottom center). Each desktop is represented by a computer icon with a monitor and keyboard.

```

Терминал - Desktop 2
Файл  Схема  Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:14:0
      inet addr:192.168.1.3  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:22 errors:0 dropped:0
      TX packets:20 errors:0 dropped:0
      RX bytes:0 TX bytes:0
=>

```

Все вместе

```

Терминал - Desktop 0
Файл  Схема  Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:2:0
      inet addr:192.168.1.1  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:10 errors:0 dropped:0
      TX packets:10 errors:0 dropped:0
      RX bytes:0 TX bytes:0
=>

```

```

Терминал - Desktop 1
Файл  Схема  Шрифт
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.3
PING 192.168.1.3
Press Ctrl+C to abort.
64 bytes from 192.168.1.3: icmp_seq=0 ttl=63 time=109 ms
64 bytes from 192.168.1.3: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=7 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=8 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:0:0
      inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:20 errors:0 dropped:0
      TX packets:20 errors:0 dropped:0
      RX bytes:0 TX bytes:0
=>

```

```

Терминал - Desktop 2
Файл  Схема  Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=219 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0  Link encap:Ethernet  HWaddr 0:0:0:0:14:0
      inet addr:192.168.1.3  Bcast:192.168.1.255  Mask:255.255.255.0
      UP
      RX packets:22 errors:0 dropped:0
      TX packets:20 errors:0 dropped:0
      RX bytes:0 TX bytes:0
=>

```

2.2

```

Терминал - Desktop 10
Файл Схема Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:86:0
      inet addr:192.168.1.9 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:10 errors:0 dropped:0
TX packets:10 errors:0 dropped:0
RX bytes:0 TX bytes:0
  
```

Задание 3

```

Терминал - Desktop 1
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:14:0
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

Терминал - Desktop 2
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
Error: Invalid address: 192.168.1.2
=>ifconfig eth0 192.168.1.2 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:1A:0
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

Терминал - Desktop 3
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.3 -netmask 255.255.255.0 -up
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:20:0
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0
  
```

```

Терминал - Desktop 1
Файл Схема Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
14 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=218 ms
14 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:14:0
      inet addr:192.168.1.1 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:10 errors:0 dropped:0
TX packets:10 errors:0 dropped:0
RX bytes:0 TX bytes:0
  
```

Ping

```

Терминал - Desktop 1
Файл Схема Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
14 bytes from 192.168.1.2: icmp_seq=0 ttl=63 time=218 ms
14 bytes from 192.168.1.2: icmp_seq=1 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=2 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=3 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=4 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=5 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=6 ttl=63 time=0 ms
14 bytes from 192.168.1.2: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:14:0
      inet addr:192.168.1.1 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:10 errors:0 dropped:0
TX packets:10 errors:0 dropped:0
RX bytes:0 TX bytes:0

Терминал - Desktop 2
Файл Схема Шрифт
      inet addr:192.168.1.2 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.3
PING 192.168.1.3
Press Ctrl+C to abort.
64 bytes from 192.168.1.3: icmp_seq=0 ttl=63 time=109 ms
64 bytes from 192.168.1.3: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.3: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:1A:0
      inet addr:192.168.1.2 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:19 errors:0 dropped:0
TX packets:19 errors:0 dropped:0
RX bytes:0 TX bytes:0

Терминал - Desktop 3
Файл Схема Шрифт
UP
RX packets:0 errors:0 dropped:0
TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>ping 192.168.1.1
PING 192.168.1.1
Press Ctrl+C to abort.
64 bytes from 192.168.1.1: icmp_seq=0 ttl=63 time=218 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=5 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=6 ttl=63 time=0 ms
64 bytes from 192.168.1.1: icmp_seq=7 ttl=63 time=0 ms
=>ifconfig -a
eth0 Link encap:Ethernet HWaddr 0:0:0:0:20:0
      inet addr:192.168.1.3 Bcast:192.168.1.255 Mask:255.255.255.0
UP
RX packets:20 errors:0 dropped:0
TX packets:20 errors:0 dropped:0
RX bytes:0 TX bytes:0
  
```



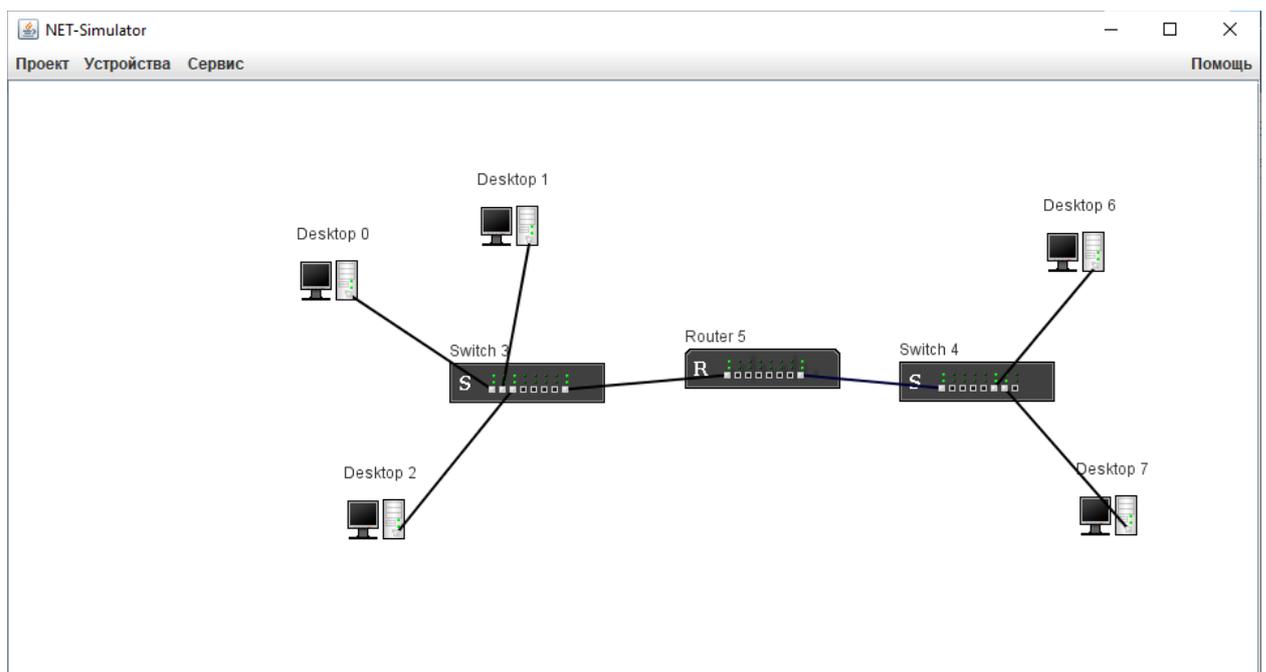

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

```
=>ifconfig eth0 192.168.100.28 -netmask 255.255.255.240 -up  
=>ifconfig -a  
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:38:0  
        inet addr:192.168.100.28  Bcast:192.168.100.31  Mask:255.255.255.240  
        UP  
        RX packets:0 errors:0 dropped:0  
        TX packets:0 errors:0 dropped:0  
        RX bytes:0 TX bytes:0
```

```
=>route  
IP routing table  
Destination      Gateway          Netmask          Flags Metric Iface  
192.168.100.16   *                255.255.255.240 U        0      eth0  
=>route -add 192.168.1.0 -netmask 255.255.255.0 -dev eth0  
=>route  
IP routing table  
Destination      Gateway          Netmask          Flags Metric Iface  
192.168.100.16   *                255.255.255.240 U        0      eth0  
192.168.1.0      *                255.255.255.0   U        0      eth0  
=>█
```

Задание 5.

Создали сеть



Настраиваем маршрутизатор

```
Терминал - Router 5
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.100 -netmask 255.255.255.0 -up
=>ifconfig eth7 172.16.1.100 -netmask 255.255.0.0 -up
=>ifconfig
eth0    Link encap:Ethernet  HWaddr 0:0:0:0:38:0
        inet addr:192.168.1.100  Bcast:192.168.1.255  Mask:255.255.255.0
        UP
        RX packets:0 errors:0 dropped:0
        TX packets:0 errors:0 dropped:0
        RX bytes:0 TX bytes:0

eth7    Link encap:Ethernet  HWaddr 0:0:0:0:38:7
        inet addr:172.16.1.100  Bcast:172.16.255.255  Mask:255.255.0.0
        UP
        RX packets:0 errors:0 dropped:0
        TX packets:0 errors:0 dropped:0
        RX bytes:0 TX bytes:0

=>
```

Настраиваем подключение компьютеров первой подсети к интерфейсу маршрутизатора eth0.

```
Терминал - Desktop 1
Файл Схема Шрифт
Welcome to console of the NET-Simulator virtual device!

Type help for list of commands. To get help for the command
type <command> -h.
Press Ctrl+L to refresh the screen.

=>ifconfig eth0 192.168.1.1 -netmask 255.255.255.0 -up
=>route -add 0.0.0.0 -netmask 0.0.0.0 -gw 192.168.1.100 -dev eth0
=>route
IP routing table
Destination      Gateway          Netmask          Flags Metric Iface
192.168.1.0      *                255.255.255.0   U      0      eth0
0.0.0.0          192.168.1.100   0.0.0.0         UG     0      eth0
=>
```

Проверяем работоспособность сети командой Ping, судя по информации, которую предоставляет команда ifconfig все пакеты были успешно доставлены.

```
Терминал - Desktop 7
Файл  Схема  Шрифт

TX packets:0 errors:0 dropped:0
RX bytes:0 TX bytes:0

=>route -add 0.0.0.0 -netmask 0.0.0.0 -gw 172.16.1.100 -dev eth0
=>ping 192.168.1.2
PING 192.168.1.2
Press Ctrl+C to abort.
64 bytes from 192.168.1.2: icmp_seq=0 ttl=62 time=438 ms
64 bytes from 192.168.1.2: icmp_seq=1 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=2 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=3 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=4 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=5 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=6 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=7 ttl=62 time=0 ms
64 bytes from 192.168.1.2: icmp_seq=8 ttl=62 time=0 ms
=>ifconfig
eth0      Link encap:Ethernet  HWaddr 0:0:0:0:52:0
          inet addr:172.16.0.110  Bcast:172.16.255.255  Mask:255.255.0.0
          UP
          RX packets:11 errors:0 dropped:0
          TX packets:11 errors:0 dropped:0
          RX bytes:0 TX bytes:0

=>
```