Федеральное государственное автономное
образовательное учреждение высшего образования

Университет ИТМО

Дисциплина: Администрирование систем и сетей

Лабораторная работа №2

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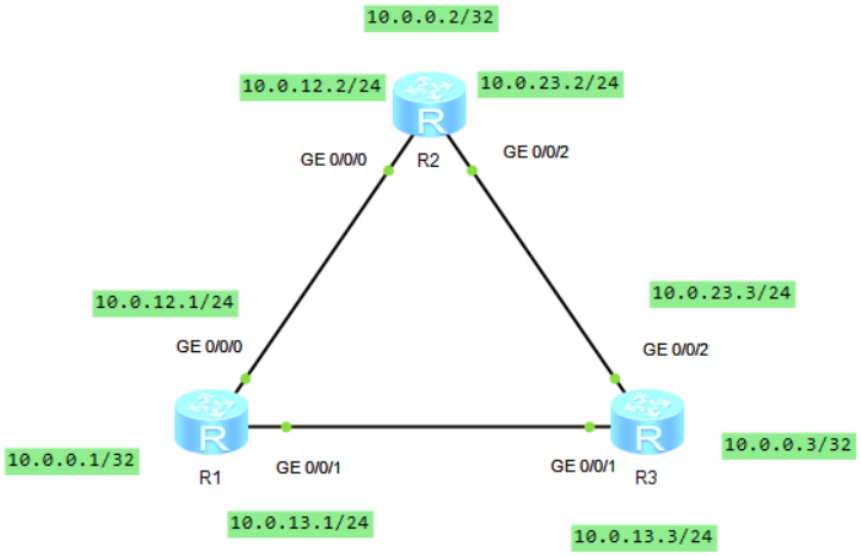
Оглавление:

Цель работы:

Получить практические в следующих темах:

- Процедура настройки IPv4-адреса на интерфейсе
- Функции и значение loopback-интерфейсов
- Принципы генерирования прямых маршрутов
- Процедура настройки статических маршрутов и условия, при которых используются статические маршруты
- Процедура проверки возможности установления соединения сетевого уровня с помощью инструмента ping
- Процедура настройки статических маршрутов и сценарии их применения

Топология сети:



План работы:

1. Настроить IP-адресов для интерфейсов на маршрутизаторах
2. Настройка статических маршрутов для установления связи между маршрутизаторами

Конфигурация оборудования:

Вывод IP-адреса текущего интерфейса и таблицы маршрутизации:

<R1>display ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 2
The number of interface that is DOWN in Physical is 2
The number of interface that is UP in Protocol is 1
The number of interface that is DOWN in Protocol is 3

Interface	IP Address/Mask	Physical	Protocol

```
GigabitEthernet0/0/0          unassigned      up          down
GigabitEthernet0/0/1          unassigned      down        down
GigabitEthernet0/0/2          unassigned      down        down
NULL0                         unassigned      up          up(s)
```

Вывод таблицы маршрутизации на маршрутизаторе R1:

```
<R1>display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 4        Routes : 4

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

        127.0.0.0/8  Direct  0    0           D   127.0.0.1       InLoopBack0
        127.0.0.1/32 Direct  0    0           D   127.0.0.1       InLoopBack0
127.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
255.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
```

Настройка IP-адресов для физических интерфейсов:

Маршрутизатор	Интерфейс	IP-адрес/маска
R1	GigabitEthernet0/0/1	10.0.13.1/24
	GigabitEthernet0/0/0	10.0.12.1/24
R2	GigabitEthernet0/0/0	10.0.12.2/24
	GigabitEthernet0/0/2	10.0.23.2/24
R3	GigabitEthernet0/0/1	10.0.13.3/24
	GigabitEthernet0/0/2	10.0.23.3/24

Процесс конфигурации оборудования:

```
<R1>system-view
```

```
[R1]interface GigabitEthernet0/0/1
[R1-GigabitEthernet0/0/1]ip address 10.0.13.1 24
[R1-GigabitEthernet0/0/1]quit
[R1]interface GigabitEthernet0/0/0
[R1-GigabitEthernet0/0/0]ip address 10.0.12.1 24
[R1i-GigabitEthernet0/0/0] quit

<R2>system-view
[R2]interface GigabitEthernet0/0/0
[R2-GigabitEthernet0/0/2]ip address 10.0.12.2 24
[R2-GigabitEthernet0/0/2]quit
[R2]interface GigabitEthernet0/0/2
[R2-GigabitEthernet0/0/2]ip address 10.0.23.2 24
[R2-GigabitEthernet0/0/2]quit

<R3>system-view
[R3]interface GigabitEthernet0/0/1
[R3-GigabitEthernet0/0/1]ip address 10.0.13.3 24
[R3i-GigabitEthernet0/0/1]quit
[R3]interface GigabitEthernet0/0/2
[R3-GigabitEthernet0/0/2]ip address 10.0.23.3 24
[R3-GigabitEthernet0/0/2]quit
```

Проверка наличия связи:

R1 → R2

```
 <R1>ping 10.0.12.2
  PING 10.0.12.2: 56  data bytes, press CTRL_C to break
    Reply from 10.0.12.2: bytes=56 Sequence=1 ttl=255 time=80 ms
    Reply from 10.0.12.2: bytes=56 Sequence=2 ttl=255 time=30 ms
    Reply from 10.0.12.2: bytes=56 Sequence=3 ttl=255 time=20 ms
    Reply from 10.0.12.2: bytes=56 Sequence=4 ttl=255 time=30 ms
    Reply from 10.0.12.2: bytes=56 Sequence=5 ttl=255 time=30 ms

  --- 10.0.12.2 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
```

0.00% packet loss
round-trip min/avg/max = 20/38/80 ms

R1 → R3

```
<R1>ping 10.0.13.3
  PING 10.0.13.3: 56  data bytes, press CTRL_C to break
    Reply from 10.0.13.3: bytes=56 Sequence=1 ttl=255 time=80 ms
    Reply from 10.0.13.3: bytes=56 Sequence=2 ttl=255 time=30 ms
    Reply from 10.0.13.3: bytes=56 Sequence=3 ttl=255 time=20 ms
    Reply from 10.0.13.3: bytes=56 Sequence=4 ttl=255 time=30 ms
    Reply from 10.0.13.3: bytes=56 Sequence=5 ttl=255 time=30 ms

  --- 10.0.13.3 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/38/80 ms
```

Таблица маршрутизации:

```
<R1>display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 10        Routes : 10

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

10.0.12.0/24        Direct  0    0           D   10.0.12.1       GigabitEthernet0/0/0
10.0.12.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.12.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
```

10.0.13.0/24	Direct	0	0	D	10.0.13.1	GigabitEthernet0/0/1
10.0.13.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
10.0.13.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0

Создание Loopback-интерфейсов:

Маршрутизатор	Интерфейс	IP-адрес/маска
R1	LoopBack0	10.0.1.1/32
R2	LoopBack0	10.0.1.2/32
R3	LoopBack0	10.0.1.3/32

```
<R1>system-view
[R1]interface LoopBack0
[R1-LoopBack0]ip address 10.0.1.1 32
[R1-LoopBack0]quit
```

```
<R2>system-view
[R2]interface LoopBack0
[R2-LoopBack0]ip address 10.0.1.2 32
[R2-LoopBack0]quit
```

```
<R3>system-view
[R3]interface LoopBack0
[R3-LoopBack0]ip address 10.0.1.3 32
[R3-LoopBack0]quit
```

Таблица маршрутизации для R1:

```
<R1>display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
```

```
      Destinations : 11       Routes : 11

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

10.0.1.1/32         Direct  0    0           D   127.0.0.1       LoopBack0
10.0.12.0/24        Direct  0    0           D   10.0.12.1       GigabitEthernet0/0/0
10.0.12.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.12.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.13.0/24        Direct  0    0           D   10.0.13.1       GigabitEthernet0/0/1
10.0.13.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
10.0.13.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
127.0.0.0/8         Direct  0    0           D   127.0.0.1       InLoopBack0
127.0.0.1/32        Direct  0    0           D   127.0.0.1       InLoopBack0
127.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
255.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0

<R1>ping -a 10.0.1.1 10.0.1.2
  PING 10.0.1.2: 56  data bytes, press CTRL_C to break
    Request time out
    Request time out
    Request time out
    Request time out
    Request time out

  --- 10.0.1.2 ping statistics ---
    5 packet(s) transmitted
    0 packet(s) received
    100.00% packet loss
```

Настройка статических маршрутов:

```
<R1>system-view
[R1]ip route-static 10.0.1.2 32 10.0.12.2
[R1]ip route-static 10.0.1.3 32 10.0.13.3
[R1]display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
      Destinations : 13       Routes : 13
```

Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
10.0.1.1/32	Direct	0	0	D	127.0.0.1	LoopBack0
10.0.1.2/32	Static	60	0	RD	10.0.12.2	GigabitEthernet0/0/0
10.0.1.3/32	Static	60	0	RD	10.0.13.3	GigabitEthernet0/0/1
10.0.12.0/24	Direct	0	0	D	10.0.12.1	GigabitEthernet0/0/0
10.0.12.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.12.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.13.0/24	Direct	0	0	D	10.0.13.1	GigabitEthernet0/0/1
10.0.13.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
10.0.13.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0

```
<R1>ping -a 10.0.1.1 10.0.1.2
  PING 10.0.1.2: 56  data bytes, press CTRL_C to break
    Request time out
    Request time out
    Request time out
    Request time out
    Request time out

  --- 10.0.1.2 ping statistics ---
    5 packet(s) transmitted
    0 packet(s) received
    100.00% packet loss
```

```
[R2]ip route-static 10.0.1.1 32 10.0.12.1
[R2]ip route-static 10.0.1.3 32 10.0.23.3
```

```
<R1>ping -a 10.0.1.1 10.0.1.2
  PING 10.0.1.2: 56  data bytes, press CTRL_C to break
    Reply from 10.0.1.2: bytes=56 Sequence=1 ttl=255 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=2 ttl=255 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=3 ttl=255 time=10 ms
    Reply from 10.0.1.2: bytes=56 Sequence=4 ttl=255 time=20 ms
```

```
  Reply from 10.0.1.2: bytes=56 Sequence=5 ttl=255 time=30 ms

 --- 10.0.1.2 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 10/20/30 ms

[R3]ip route-static 10.0.1.1 32 10.0.13.1
[R3]ip route-static 10.0.1.2 32 10.0.23.2

<R2>ping -a 10.0.1.2 10.0.1.3
 PING 10.0.1.3: 56  data bytes, press CTRL_C to break
  Reply from 10.0.1.3: bytes=56 Sequence=1 ttl=255 time=20 ms
  Reply from 10.0.1.3: bytes=56 Sequence=2 ttl=255 time=30 ms
  Reply from 10.0.1.3: bytes=56 Sequence=3 ttl=255 time=20 ms
  Reply from 10.0.1.3: bytes=56 Sequence=4 ttl=255 time=20 ms
  Reply from 10.0.1.3: bytes=56 Sequence=5 ttl=255 time=20 ms

 --- 10.0.1.3 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 20/22/30 ms

<R3>ping -a 10.0.1.3 10.0.1.2
 PING 10.0.1.2: 56  data bytes, press CTRL_C to break
  Reply from 10.0.1.2: bytes=56 Sequence=1 ttl=255 time=20 ms
  Reply from 10.0.1.2: bytes=56 Sequence=2 ttl=255 time=10 ms
  Reply from 10.0.1.2: bytes=56 Sequence=3 ttl=255 time=30 ms
  Reply from 10.0.1.2: bytes=56 Sequence=4 ttl=255 time=20 ms
  Reply from 10.0.1.2: bytes=56 Sequence=5 ttl=255 time=20 ms

 --- 10.0.1.2 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 10/20/30 ms
```

Создание резервных маршрутов:

[R1]ip route-static 10.0.1.2 32 10.0.13.3 preference 100
[R2]ip route-static 10.0.1.1 32 10.0.23.3 preference 100

[R1]display ip routing-table
Route Flags: R - relay, D - download to fib

Routing Tables: Public
Destinations : 13 Routes : 13

Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
10.0.1.1/32	Direct	0	0	D	127.0.0.1	LoopBack0
10.0.1.2/32	Static	60	0	RD	10.0.12.2	GigabitEthernet0/0/0
10.0.1.3/32	Static	60	0	RD	10.0.13.3	GigabitEthernet0/0/1
10.0.12.0/24	Direct	0	0	D	10.0.12.1	GigabitEthernet0/0/0
10.0.12.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.12.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.13.0/24	Direct	0	0	D	10.0.13.1	GigabitEthernet0/0/1
10.0.13.1/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
10.0.13.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0

[R2]display ip routing-table
Route Flags: R - relay, D - download to fib

Routing Tables: Public
Destinations : 13 Routes : 13

Destination/Mask	Proto	Pre	Cost	Flags	NextHop	Interface
10.0.1.1/32	Static	60	0	RD	10.0.12.1	GigabitEthernet0/0/0
10.0.1.2/32	Direct	0	0	D	127.0.0.1	LoopBack0
10.0.1.3/32	Static	60	0	RD	10.0.23.3	GigabitEthernet0/0/2
10.0.12.0/24	Direct	0	0	D	10.0.12.2	GigabitEthernet0/0/0
10.0.12.2/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.12.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/0
10.0.23.0/24	Direct	0	0	D	10.0.23.2	GigabitEthernet0/0/2

10.0.23.2/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/2
10.0.23.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/2
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0

Выключение интерфейса для активации резервного маршрута:

```
[R1]interface GigabitEthernet 0/0/0
[R1-GigabitEthernet0/0/0]shutdown

[R1]display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 10        Routes : 10

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

        10.0.1.1/32  Direct  0    0           D   127.0.0.1       LoopBack0
        10.0.1.2/32  Static  100  0           RD  10.0.13.3       GigabitEthernet0/0/1
        10.0.1.3/32  Static  60   0           RD  10.0.13.3       GigabitEthernet0/0/1
       10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet0/0/1
       10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
     10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
        127.0.0.0/8  Direct  0    0           D   127.0.0.1       InLoopBack0
        127.0.0.1/32  Direct  0    0           D   127.0.0.1       InLoopBack0
  127.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
  255.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0


<R2>display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 10        Routes : 10

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

        10.0.1.1/32  Static  100  0           RD  10.0.23.3       GigabitEthernet0/0/2
        10.0.1.2/32  Direct  0    0           D   127.0.0.1       LoopBack0
```

10.0.1.3/32	Static 60	0	RD	10.0.23.3	GigabitEthernet0/0/2
10.0.23.0/24	Direct 0	0	D	10.0.23.2	GigabitEthernet0/0/2
10.0.23.2/32	Direct 0	0	D	127.0.0.1	GigabitEthernet0/0/2
10.0.23.255/32	Direct 0	0	D	127.0.0.1	GigabitEthernet0/0/2
127.0.0.0/8	Direct 0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct 0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct 0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct 0	0	D	127.0.0.1	InLoopBack0

```
<R1>ping -a 10.0.1.1 10.0.1.2
  PING 10.0.1.2: 56  data bytes, press CTRL_C to break
    Reply from 10.0.1.2: bytes=56 Sequence=1 ttl=254 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=2 ttl=254 time=30 ms
    Reply from 10.0.1.2: bytes=56 Sequence=3 ttl=254 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=4 ttl=254 time=30 ms
    Reply from 10.0.1.2: bytes=56 Sequence=5 ttl=254 time=30 ms

  --- 10.0.1.2 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/26/30 ms

<R1>tracert -a 10.0.1.1 10.0.1.2

 traceroute to  10.0.1.2(10.0.1.2), max hops: 30 ,packet length: 40,press CTRL_C
 to break

 1 10.0.13.3 30 ms  10 ms  20 ms

 2 10.0.23.2 30 ms  40 ms  20 ms
```

Включение интерфейсов и удаление настроенных маршрутов:

```
<R1>system-view
Enter system view, return user view with Ctrl+Z.
[R1]interface GigabitEthernet0/0/0
[R1-GigabitEthernet0/0/0]undo shutdown
[R1-GigabitEthernet0/0/0]quit
[R1]undo ip route-static 10.0.1.2 255.255.255.255 10.0.13.3 preference 100
[R1]undo ip route-static 10.0.1.2 255.255.255.255 10.0.12.2
```

```
[R1]display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 12        Routes : 12

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

10.0.1.1/32         Direct  0    0           D   127.0.0.1       LoopBack0
10.0.1.3/32         Static  60   0           RD  10.0.13.3       GigabitEthernet0/0/1
10.0.12.0/24        Direct  0    0           D   10.0.12.1       GigabitEthernet0/0/0
10.0.12.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.12.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.13.0/24        Direct  0    0           D   10.0.13.1       GigabitEthernet0/0/1
10.0.13.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
10.0.13.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
127.0.0.0/8         Direct  0    0           D   127.0.0.1       InLoopBack0
127.0.0.1/32        Direct  0    0           D   127.0.0.1       InLoopBack0
127.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
255.255.255.255/32  Direct  0    0           D   127.0.0.1       InLoopBack0
```

Настройка маршрута по-умолчанию:

```
[R1]ip route-static 0.0.0.0 0 10.0.12.2
[R1]display ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 13        Routes : 13

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

0.0.0.0/0           Static  60   0           RD  10.0.12.2       GigabitEthernet0/0/0
10.0.1.1/32         Direct  0    0           D   127.0.0.1       LoopBack0
10.0.1.3/32         Static  60   0           RD  10.0.13.3       GigabitEthernet0/0/1
10.0.12.0/24        Direct  0    0           D   10.0.12.1       GigabitEthernet0/0/0
10.0.12.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.12.255/32      Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/0
10.0.13.0/24        Direct  0    0           D   10.0.13.1       GigabitEthernet0/0/1
10.0.13.1/32        Direct  0    0           D   127.0.0.1       GigabitEthernet0/0/1
```

10.0.13.255/32	Direct	0	0	D	127.0.0.1	GigabitEthernet0/0/1
127.0.0.0/8	Direct	0	0	D	127.0.0.1	InLoopBack0
127.0.0.1/32	Direct	0	0	D	127.0.0.1	InLoopBack0
127.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0
255.255.255.255/32	Direct	0	0	D	127.0.0.1	InLoopBack0

Проверка связи:

```
<R1>ping -a 10.0.1.1 10.0.1.2
  PING 10.0.1.2: 56  data bytes, press CTRL_C to break
    Reply from 10.0.1.2: bytes=56 Sequence=1 ttl=255 time=30 ms
    Reply from 10.0.1.2: bytes=56 Sequence=2 ttl=255 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=3 ttl=255 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=4 ttl=255 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=5 ttl=255 time=20 ms

  --- 10.0.1.2 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/22/30 ms
```

Вывод:

Во время выполнения лабораторной работы мы:

- познакомились с работой в eNSP
- настроили IPv4 адреса на интерфейсах, loopback адреса, статические маршруты и резервные маршруты.