НИУ ИТМО
Факультет программной инженерии и компьютерных технологий

Отчет по лабораторной работе №2
по дисциплине Администрирование систем и сетей

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Желаемая оценка: 3

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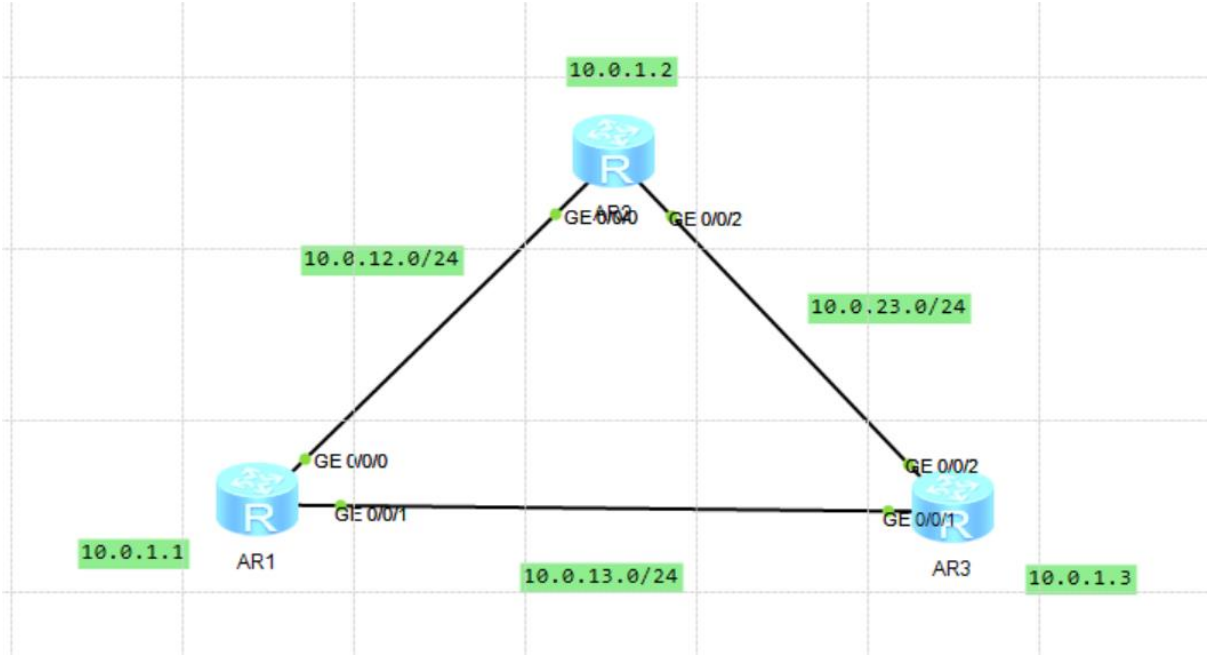
2024

Оглавление

Топология


10.0.1.2
AR2
GE 0/0/0
GE 0/0/2
10.0.12.0/24
10.0.23.0/24
GE 0/0/0
GE 0/0/2
GE 0/0/1
GE 0/0/1
10.0.1.1
AR1
10.0.13.0/24
AR3
10.0.1.3

Конфигурация

1 Задание имён устройств

```
<Huawei>syste
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]sy
[Huawei]sysname AR1
[AR1]

[Huawei]sysname AR2
[AR2]

[Huawei]sysname AR3
[AR3]
```

2 Диагностика AR1

```
[AR1]display ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 3
The number of interface that is DOWN in Physical is 1
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           up         down
GigabitEthernet0/0/2              unassigned           down       down
NULL0                             unassigned           up         up(s)
[AR1]


[AR1]display ip rou
[AR1]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

[AR1]
```

3 Настройка IP-адресов для физических устройств

3.1 Настройка IP

```
[AR1]interface Giga
[AR1]interface GigabitEthernet 0/0/0
[AR1-GigabitEthernet0/0/0]ip add
[AR1-GigabitEthernet0/0/0]ip address 10.0.12.1 24
[AR1-GigabitEthernet0/0/0]
Sep 13 2024 19:18:03-08:00 AR1 %%01IFNET/4/LINK_STATE(l)[2]:The line protocol IP
 on the interface GigabitEthernet0/0/0 has entered the UP state.
[AR1-GigabitEthernet0/0/0]quit
[AR1]interfa
[AR1]interface Giga
[AR1]interface GigabitEthernet 0/0/1
[AR1-GigabitEthernet0/0/1]ip add
[AR1-GigabitEthernet0/0/1]ip address 10.0.13.1 24
Sep 13 2024 19:18:34-08:00 AR1 %%01IFNET/4/LINK_STATE(l)[3]:The line protocol IP
 on the interface GigabitEthernet0/0/1 has entered the UP state.
[AR1-GigabitEthernet0/0/1]quit
[AR1]


[AR2]inter
[AR2]interface Gig
[AR2]interface GigabitEthernet 0/0/0
[AR2-GigabitEthernet0/0/0]ip ad
[AR2-GigabitEthernet0/0/0]ip address 10.0.12.2 24
Sep 13 2024 19:19:24-08:00 AR2 %%01IFNET/4/LINK_STATE(l)[0]:The line protocol IP
 on the interface GigabitEthernet0/0/0 has entered the UP state.
[AR2-GigabitEthernet0/0/0]quit
[AR2]inte
[AR2]interface Giga
[AR2]interface GigabitEthernet 0/0/2
[AR2-GigabitEthernet0/0/2]ip add
[AR2-GigabitEthernet0/0/2]ip address 10.0.23.2 24
Sep 13 2024 19:19:43-08:00 AR2 %%01IFNET/4/LINK_STATE(l)[1]:The line protocol IP
 on the interface GigabitEthernet0/0/2 has entered the UP state.
[AR2-GigabitEthernet0/0/2]quit
[AR2]


[AR3]inte
[AR3]interface Gig
[AR3]interface GigabitEthernet 0/0/1
[AR3-GigabitEthernet0/0/1]ip ad
[AR3-GigabitEthernet0/0/1]ip address 10.0.13.3 24
Sep 13 2024 19:20:23-08:00 AR3 %%01IFNET/4/LINK_STATE(l)[0]:The line protocol IP
 on the interface GigabitEthernet0/0/1 has entered the UP state.
[AR3-GigabitEthernet0/0/1]quit
[AR3]inter
[AR3]interface Gig
[AR3]interface GigabitEthernet 0/0/2
[AR3-GigabitEthernet0/0/2]ip add
[AR3-GigabitEthernet0/0/2]ip address 10.0.23.3 24
Sep 13 2024 19:20:37-08:00 AR3 %%01IFNET/4/LINK_STATE(l)[1]:The line protocol IP
 on the interface GigabitEthernet0/0/2 has entered the UP state.
[AR3-GigabitEthernet0/0/2]quit
[AR3]
```

3.2 Проверка связи

```
[AR1]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=90 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=30 ms
    Reply from 10.0.12.2: bytes=56 Sequence=4 ttl=255 time=20 ms
    Reply from 10.0.12.2: bytes=56 Sequence=5 ttl=255 time=20 ms

  --- 10.0.12.2 ping statistics ---
    5 packet(s) transmitted
    5 packet(s) received
    0.00% packet loss
    round-trip min/avg/max = 20/38/90 ms

[AR1]


[AR1]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=20 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=20 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 = 20/34/80 ms

[AR1]
```

3.3 Таблица маршрутизации AR1

```
[AR1]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       GigabitEthernet
0/0/0
      10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
    10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
      10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
      10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
    10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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

[AR1]
```

4 Создание LoopBack интерфейсов

4.1 Создание интерфейсов

```
[AR1]interface LoopBack0
[AR1-LoopBack0]ip addr
[AR1-LoopBack0]ip address 10.0.1.1 32

[AR2]interface LoopBack0
[AR2-LoopBack0]ip add
[AR2-LoopBack0]ip address 10.0.1.2 32

[AR3]interface LoopBack0
[AR3-LoopBack0]ip add
[AR3-LoopBack0]ip address 10.0.1.3 32
```

4.2 Таблица маршрутизации AR1

```
[AR1]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       GigabitEthernet
0/0/0
      10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
    10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
      10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
      10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
    10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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

[AR1]
```

4.3 Проверка связи

```
[AR1]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

[AR1]
```

5 Настройка статических маршрутов

5.1 Создание статических записей в AR1

```
[AR1]ip route-static 10.0.1.2 32 10.0.12.2
[AR1]ip route-static 10.0.1.3 32 10.0.13.3
```

5.2 Таблица маршрутизации

```
[AR1]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       GigabitEthernet
0/0/0
        10.0.1.3/32  Static  60   0          RD   10.0.13.3       GigabitEthernet
0/0/1
       10.0.12.0/24  Direct  0    0           D   10.0.12.1       GigabitEthernet
0/0/0
       10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
     10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
       10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
       10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
     10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
       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

[AR1]
```

5.3 Проверка связи

```
[AR1]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

[AR1]
```

5.4 Создание статической записи в AR2

```
[AR2]ip route-static 10.0.1.1 32 10.0.12.1
```

5.5 Проверка связи

```
[AR1]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=30 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 = 20/26/30 ms

[AR1]
```

5.6 Создание остальных статических записей

```
[AR2]ip route-static 10.0.1.3 32 10.0.23.3

[AR3]ip route-static 10.0.1.1 32 10.0.13.1
[AR3]ip route
[AR3]ip route-
[AR3]ip route-static 10.0.1.2 32 10.0.23.2
```

6 Настройка маршрута от AR1 к AR2 через AR3

6.1 Статические маршруты

```
[AR1]ip route-static 10.0.1.2 32 10.0.13.3 preference 100

[AR2]ip route-static 10.0.1.1 32 10.0.23.3 preference 100
```

6.2 Таблицы маршрутизации

```
[AR1]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       GigabitEthernet
0/0/0
        10.0.1.3/32  Static  60   0          RD   10.0.13.3       GigabitEthernet
0/0/1
       10.0.12.0/24  Direct  0    0           D   10.0.12.1       GigabitEthernet
0/0/0
       10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
     10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
       10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
       10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
     10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
       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

[AR1]

[AR2]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       GigabitEthernet
0/0/0
        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       GigabitEthernet
0/0/2
       10.0.12.0/24  Direct  0    0           D   10.0.12.2       GigabitEthernet
0/0/0
       10.0.12.2/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
     10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
       10.0.23.0/24  Direct  0    0           D   10.0.23.2       GigabitEthernet
0/0/2
       10.0.23.2/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/2
     10.0.23.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/2
       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

[AR2]
```

6.3 Отключение интерфейса

```
[AR1]interface GigabitEthernet 0/0/0
[AR1-GigabitEthernet0/0/0]shutdown
Sep 13 2024 19:40:17-08:00 AR1 %%01IFPDT/4/IF_STATE(l)[4]:Interface GigabitEther
net0/0/0 has turned into DOWN state.
[AR1-GigabitEthernet0/0/0]
[AR1-GigabitEthernet0/0/0]
Sep 13 2024 19:40:17-08:00 AR1 %%01IFNET/4/LINK_STATE(l)[5]:The line protocol IP
 on the interface GigabitEthernet0/0/0 has entered the DOWN state.
[AR1-GigabitEthernet0/0/0]
```

6.4 Таблицы маршрутизации

```
[AR1]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       GigabitEthernet
0/0/1
       10.0.1.3/32  Static  60   0          RD   10.0.13.3       GigabitEthernet
0/0/1
      10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
      10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
    10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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

[AR1]

[AR2]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       GigabitEthernet
0/0/2
       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       GigabitEthernet
0/0/2
      10.0.23.0/24  Direct  0    0           D   10.0.23.2       GigabitEthernet
0/0/2
      10.0.23.2/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/2
    10.0.23.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/2
      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

[AR2]
```

6.5 Проверка связи

```
[AR1]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
    Reply from 10.0.1.2: bytes=56 Sequence=2 ttl=254 time=20 ms
    Reply from 10.0.1.2: bytes=56 Sequence=3 ttl=254 time=40 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
    4 packet(s) received
    20.00% packet loss
    round-trip min/avg/max = 20/30/40 ms

[AR1]
```

6.6 Трассировка маршрута

```
[AR1]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 20 ms  20 ms  20 ms
[AR1]
```

7 Настройка маршрутов по умолчанию

7.1 Включить интерфейсы

```
[AR1]interface GigabitEthernet 0/0/0
[AR1-GigabitEthernet0/0/0]undo shutdown
[AR1-GigabitEthernet0/0/0]quit
Sep 13 2024 19:45:07-08:00 AR1 %%01IFPDT/4/IF_STATE(l)[6]:Interface GigabitEther
net0/0/0 has turned into UP state.
[AR1-GigabitEthernet0/0/0]quit
Sep 13 2024 19:45:07-08:00 AR1 %%01IFNET/4/LINK_STATE(l)[7]:The line protocol IP
 on the interface GigabitEthernet0/0/0 has entered the UP state.
[AR1-GigabitEthernet0/0/0]quit
[AR1]undo ip route-static 10.0.1.2 255.255.255.255 10.0.12.2
[AR1]undo ip route-static 10.0.1.2 255.255.255.255 10.0.13.3 preference 100
```

7.2 Таблица маршрутизации

```
[AR1]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       GigabitEthernet
0/0/1
      10.0.12.0/24  Direct  0    0           D   10.0.12.1       GigabitEthernet
0/0/0
      10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
    10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
      10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
      10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
    10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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
```

7.3 Настройка маршрута

```
[AR1]ip route-static 0.0.0.0 0 10.0.12.2
```

7.4 Таблица маршрутизации

```
[AR1]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       GigabitEthernet
0/0/0
       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       GigabitEthernet
0/0/1
      10.0.12.0/24  Direct  0    0           D   10.0.12.1       GigabitEthernet
0/0/0
      10.0.12.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
    10.0.12.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
      10.0.13.0/24  Direct  0    0           D   10.0.13.1       GigabitEthernet
0/0/1
      10.0.13.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
    10.0.13.255/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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
```

7.5 Проверка связи

```
[AR1]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=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=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

[AR1]
```