Урок 06. Настройка роутеров и PC

1. Настраиваем DHCP на роутерах
   1. 1. Router0 Зададим пул адресов. Добавим роутер по умолчанию. Добавим DNS сервер. Сохраним настройки.

```
Зададим пул адресов. Добавим роутер по умолчанию. Добавим DNS сервер. Сохраним настройки.
>>>>
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip dhcp pool pool.192.168.1
Router(dhcp-config)#network 192.168.1.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write
Building configuration...
[OK]
```

   1. 2. Router1 Зададим пул адресов. Добавим роутер по умолчанию. Добавим DNS сервер. Сохраним настройки.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip dhcp pool pool.192.168.2
Router(dhcp-config)#network 192.168.2.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.2.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write
Building configuration...
[OK]
```

1. 3. Router2 Зададим пул адресов. Добавим роутер по умолчанию. Добавим DNS сервер. Сохраним настройки.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip dhcp pool pool.192.168.3
Router(dhcp-config)#network 192.168.3.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.3.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write
Building configuration...
[OK]
```

2. На всех PC сетей устанавливаем получение IP по DHCP (Config -> DHCP)

3. Проверяем DHCP:
дожидаемся получения IP и пингуем каждый PC в подсети с каждого PC в подсети.

4. Настраиваем на роутерах RIP2 маршрутизацию. Статические маршруты (назначены в практическом задании к уроку 4) имеют преимущество перед динамическими маршрутами RIP, поэтому вначале удаляем статические маршруты.

4. 1. Router0

```
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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

C    172.16.0.0/16 is directly connected, FastEthernet5/0
C    172.17.0.0/16 is directly connected, FastEthernet4/0
C    192.168.1.0/24 is directly connected, FastEthernet0/0
S    192.168.2.0/24 [1/0] via 172.17.0.2
S    192.168.3.0/24 [1/0] via 172.16.0.2
```

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip route 192.168.2.0 255.255.255.0
Router(config)#no ip route 192.168.3.0 255.255.255.0
Router(config)#route rip
Router(config-router)#version 2
Router(config-router)#network 192.168.1.0
Router(config-router)#network 172.16.0.0
Router(config-router)#network 172.17.0.0
Router(config-router)#exit
Router(config)#exit
Router#write
Building configuration...
[OK]
```

4. 2. Router1

```
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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

C    172.17.0.0/16 is directly connected, FastEthernet4/0
C    172.18.0.0/16 is directly connected, FastEthernet5/0
S    192.168.1.0/24 [1/0] via 172.17.0.1
C    192.168.2.0/24 is directly connected, FastEthernet0/0
S    192.168.3.0/24 [1/0] via 172.18.0.2

Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip route 192.168.1.0 255.255.255.0
Router(config)#no ip route 192.168.3.0 255.255.255.0
Router(config)#route rip
Router(config-router)#version 2
Router(config-router)#network 192.168.2.0
Router(config-router)#network 172.17.0.0
Router(config-router)#network 172.18.0.0
Router(config-router)#exit
Router(config)#exit
```

```
Router#write
Building configuration...
[OK]
```

4. 3. Router2

```
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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

C    172.16.0.0/16 is directly connected, FastEthernet5/0
C    172.18.0.0/16 is directly connected, FastEthernet4/0
S    192.168.1.0/24 [1/0] via 172.16.0.1
S    192.168.2.0/24 [1/0] via 172.18.0.1
C    192.168.3.0/24 is directly connected, FastEthernet0/0

Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip route 192.168.1.0 255.255.255.0
Router(config)#no ip route 192.168.2.0 255.255.255.0
Router(config)#route rip
Router(config-router)#version 2
Router(config-router)#network 192.168.3.0
Router(config-router)#network 172.16.0.0
Router(config-router)#network 172.18.0.0
Router(config-router)#exit
Router(config)#exit
Router#write
Building configuration...
[OK]
```

5. Проверяем:

Пингуем с каждого PC одной подсети каждый PC других подсетей.