Российский университет дружбы народов

Лабораторная работа №8

АДРЕСАЦИЯ IPV4 И IPV6. НАСТРОЙКА МАРШРУТИЗАЦИИ

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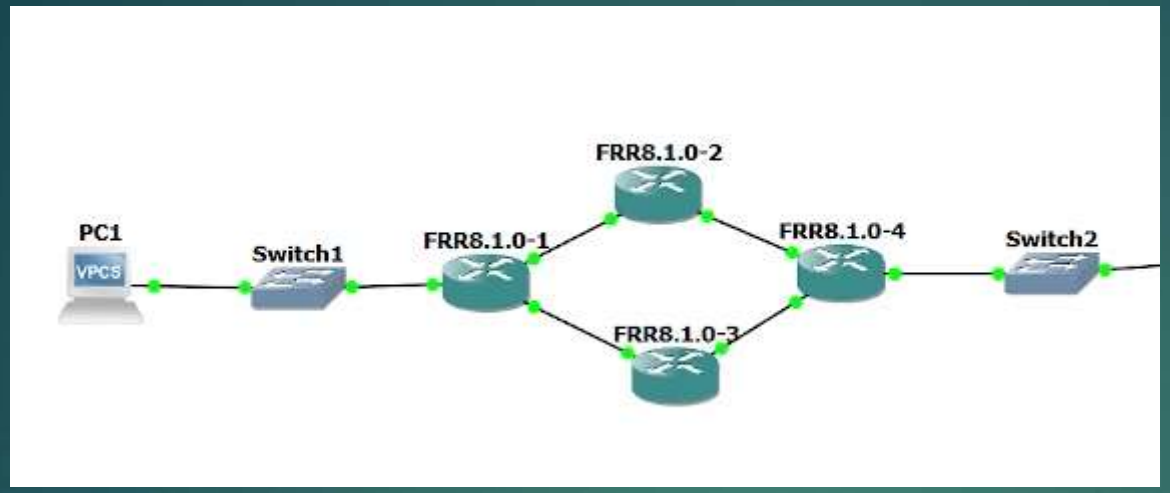
Цель:

Изучение принципов маршрутизации в IPv4- и IPv6-сетях и принципов настройки сетевого оборудования..




```
PC1-Yusupov> ip 10.0.10.10/24 10.0.10.1
Checking for duplicate address...
PC1 : 10.0.10.10 255.255.255.0 gateway 10.0.10.1

PC1-Yusupov> save
Saving startup configuration to startup.vpc
.  done
```

```
PC2-Yusupov> ip 10.0.11.10/24 10.0.11.1
Checking for duplicate address...
PC1 : 10.0.11.10 255.255.255.0 gateway 10.0.11.1

PC2-Yusupov> save
Saving startup configuration to startup.vpc
.  done

PC2-Yusupov> show ip
```

```
frr# configure terminal
frr(config)# hostname FRR8.1.0-1
FRR8.1.0-1(config)# interfaceeth0
% Unknown command: interfaceeth0
FRR8.1.0-1(config)# interfaceth0
% Unknown command: interfaceth0
FRR8.1.0-1(config)# interface eth0
FRR8.1.0-1(config-if)# ip address 10.0.10.1/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth1
FRR8.1.0-1(config-if)# ip address 10.0.1.1/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth2
FRR8.1.0-1(config-if)# ip address 10.0.4.2/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# write memory
% Unknown command: write memory
FRR8.1.0-1(config)# write memory
```

```
yusupov@yusupov-gw-01# set interfaces ethernet eth0 address 10.0.0.1/24
[edit]
yusupov@yusupov-gw-01# set service dhcp-server shared-network-name yusupov yusup
ov.net

  Configuration path: service dhcp-server shared-network-name yusupov [yusupov.n
et] is not valid
  Set failed

[edit]
yusupov@yusupov-gw-01# set service dhcp-server shared-networ-name yusupov name-s
erver 10.0.0.1

  Configuration path: service dhcp-server [shared-networ-name] is not valid
  Set failed

[edit]
yusupov@yusupov-gw-01# set service dhcp-server
[edit]
yusupov@yusupov-gw-01# set service dhcp-server shared-network-name yusupov subne
t 10.0.0.0/24 default-router 10.0.0.1
[edit]
```

```
FRR8.1.0-1(config-if)# id address 10.0.10.1/24
% Unknown command: id address 10.0.10.1/24
FRR8.1.0-1(config-if)# hostname FRR8.1.0-1
FRR8.1.0-1(config)# interface eth0
FRR8.1.0-1(config-if)# ip address 10.0.10.1/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth1
FRR8.1.0-1(config-if)# ip address 10.0.1.1/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth2 ip address 10.0.4.2/24
% Unknown command: interface eth2 ip address 10.0.4.2/24
FRR8.1.0-1(config)# interface eth2
FRR8.1.0-1(config-if)# ip address 10.0.4.2/24
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# exit
FRR8.1.0-1# write memory
Note: this version of vtysh never writes vtysh.conf
Building Configuration...
Integrated configuration saved to /etc/frr/frr.conf
[OK]
FRR8.1.0-1# show running-con
```

```
Hello, this is FRRouting (version 8.1).
Copyright 1996-2005 Kunihiro Ishiguro, et al.

frr# configure terminal
frr(config)# hostname FRR8.1.0-2
FRR8.1.0-2(config)# interface eth0
FRR8.1.0-2(config-if)# ip address 10.0.1.2/24
FRR8.1.0-2(config-if)# no shutdown
FRR8.1.0-2(config-if)# exit
FRR8.1.0-2(config)# interface eth1
FRR8.1.0-2(config-if)# ip address 10.0.2.1/24
FRR8.1.0-2(config-if)# no shutdown
FRR8.1.0-2(config-if)# exit
FRR8.1.0-2(config)# exit
FRR8.1.0-2#
```

```
PC1-Yusupov> show ip

NAME        : PC1-Yusupov[1]
IP/MASK     : 10.0.10.10/24
GATEWAY     : 10.0.10.1
DNS         :
MAC         : 00:50:79:66:68:00
LPORT       : 10006
RHOST:PORT  : 127.0.0.1:10007
MTU:        : 1500

PC1-Yusupov> ip 2001:10::a/64
PC1 : 2001:10::a/64

PC1-Yusupov> savw
Bad command: "savw". Use ? for help.

PC1-Yusupov> save
Saving startup configuration to startup.vpc
.  done

PC1-Yusupov> show ipv6
```

```
end
FRR8.1.0-1# configure terminal
FRR8.1.0-1(config)# ipv6 forwarding
FRR8.1.0-1(config)# interfacce eth0
% Unknown command: interfacce eth0
FRR8.1.0-1(config)# interface eth0
FRR8.1.0-1(config-if)# ipv6 address 2001:10::1/64
FRR8.1.0-1(config-if)# no ipv6 nd suppress-ra
FRR8.1.0-1(config-if)# ipv6 nd prefix 2001:10::/64
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth1
FRR8.1.0-1(config-if)# ipv6 address 2001:1::1/6ipv6 address 2001:1::
% Unknown command: ipv6 address 2001:1::1/6ipv6 address 2001:1::1/
FRR8.1.0-1(config-if)# ipv6 address 2001:1::1/6
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)#
FRR8.1.0-1(config-if)#
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# interface eth2
FRR8.1.0-1(config-if)# ipv6 address 2001:4::2/64
FRR8.1.0-1(config-if)# no shutdown
FRR8.1.0-1(config-if)# exit
FRR8.1.0-1(config)# exit
FRR8.1.0-1# write memory
Note: this version of vtysh never writes vtysh.conf
```

```
FRR8.1.0-1#
FRR8.1.0-1# configure terminal
FRR8.1.0-1(config)# router rip
FRR8.1.0-1(config-router)# version 2
FRR8.1.0-1(config-router)# )# version 2
% Unknown command: )# version 2
FRR8.1.0-1(config-router)# network eth0
FRR8.1.0-1(config-router)# network eth1
FRR8.1.0-1(config-router)# network eth2
FRR8.1.0-1(config-router)# exit
FRR8.1.0-1(config)# exit
FRR8.1.0-1# write memory
```

```
[OK]
FRR8.1.0-4# show route rip
ZEBRA:
ZEBRA: 'route-map rip' not found
RIP:
RIP: 'route-map rip' not found
RIPNG:
RIPNG: 'route-map rip' not found
OSPF:
OSPF: 'route-map rip' not found
OSPF6:
OSPF6: 'route-map rip' not found
BGP:
BGP: 'route-map rip' not found
ISIS:
ISIS: 'route-map rip' not found
PIM:
PIM: 'route-map rip' not found
EIGRP:
EIGRP: 'route-map rip' not found
FRR8.1.0-4#
```

```
  Distance: (default is 120)
FRR8.1.0-4# ping 10.0.11.10
PING 10.0.11.10 (10.0.11.10): 56 data bytes
ping: sendto: Network unreachable
FRR8.1.0-4#
```

```
[OK]
FRR8.1.0-2# configure terminal
FRR8.1.0-2(config)# interface eth0
FRR8.1.0-2(config-if)# shutdown
FRR8.1.0-2(config-if)#
```

```
FRR8.1.0-2(config-if)# show ip rip
% Unknown command: show ip rip
FRR8.1.0-2(config-if)#
```

```
FRR8.1.0-2(config-if)# router ripng
FRR8.1.0-2(config-router)# network eth0
FRR8.1.0-2(config-router)# network eth1
FRR8.1.0-2(config-router)# exit
FRR8.1.0-2(config)# exit
FRR8.1.0-2# write memory
Note: this version of vtysh never writes vtysh.conf
Building Configuration...
Integrated configuration saved to /etc/frr/frr.conf
[OK]
FRR8.1.0-2#
```

```
[OK]
FRR8.1.0-1# configure terminal
FRR8.1.0-1(config)# router ripng
ripngd is not running
FRR8.1.0-1(config-router)# network eth0
ripngd is not running
FRR8.1.0-1(config-router)# network eth1
ripngd is not running
FRR8.1.0-1(config-router)# network eth2
ripngd is not running
FRR8.1.0-1(config-router)# exit
ripngd is not running
FRR8.1.0-1(config)# exit
FRR8.1.0-1#  write memory
Note: this version of vtysh never writes vtysh.conf
Building Configuration...
Integrated configuration saved to /etc/frr/frr.conf
[OK]
FRR8.1.0-1#
```