

Настройка внешнего IPv4-адреса:

```
Router# config
Router(config)# interface WAN1
Router(config-if)# ip address 9.192.255.250 255.192.0.0
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# ip route 0.0.0.0 0.0.0.0 9.192.0.1
Router(config)# end
Router# write memory
```

Настройка VLAN и внутренних IPv4-адресов:

```
Router # config
Router(config)# vlan 10
Router(config-vlan)# name Admin
Router(config-vlan)# exit
Router(config)# vlan 20
Router(config-vlan)# name Faculty
Router(config-vlan)# exit
Router(config)# vlan 30
Router(config-vlan)# name Students
Router(config-vlan)# exit
Router(config)# vlan 40
Router(config-vlan)# name Peripherals
Router(config-vlan)# exit
Router(config)# vlan 50
Router(config-vlan)# name Mobile
Router(config-vlan)# exit
Router(config)# interface LAN1.10
Router(config-if)# ip address 192.168.100.1 255.255.255.224
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.20
Router(config-if)# ip address 192.168.100.33 255.255.255.224
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.30
Router(config-if)# ip address 192.168.100.65 255.255.255.192
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.40
Router(config-if)# ip address 192.168.100.129 255.255.255.224
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.50
Router(config-if)# ip address 192.168.100.161 255.255.255.192
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# end
Router# write memory
```

Настройка DHCP для IPv4:

```
Router# config
Router(config)# ip dhcp pool Admin_pool
Router(dhcp-config)# network 192.168.100.0 255.255.255.224
Router(dhcp-config)# default-router 192.168.100.1
Router(dhcp-config)# dns-server 8.8.8.8 8.8.4.4
Router(dhcp-config)# exit
Router(config)# ip dhcp pool Faculty_pool
Router(dhcp-config)# network 192.168.100.32 255.255.255.224
Router(dhcp-config)# default-router 192.168.100.33
Router(dhcp-config)# dns-server 8.8.8.8 8.8.4.4
Router(dhcp-config)# exit
Router(config)# ip dhcp pool Students_pool
Router(dhcp-config)# network 192.168.100.64 255.255.255.192
Router(dhcp-config)# default-router 192.168.100.65
Router(dhcp-config)# dns-server 8.8.8.8 8.8.4.4
Router(dhcp-config)# exit
Router(config)# ip dhcp pool Peripherals_pool
Router(dhcp-config)# network 192.168.100.128 255.255.255.224
Router(dhcp-config)# default-router 192.168.100.129
Router(dhcp-config)# dns-server 8.8.8.8 8.8.4.4
Router(dhcp-config)# exit
Router(config)# ip dhcp pool Mobile_pool
Router(dhcp-config)# network 192.168.100.160 255.255.255.192
Router(dhcp-config)# default-router 192.168.100.161
Router(dhcp-config)# dns-server 8.8.8.8 8.8.4.4
Router(dhcp-config)# exit
Router(config)# end
Router# write memory
```

Настройка IPv6:

```
Router# config
Router(config)# ipv6 unicast-routing
Router(config)# interface LAN1.20
Router(config-if)# ipv6 address 2a03:3000:20::1/64
Router(config-if)# ipv6 enable
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.30
Router(config-if)# ipv6 address 2a03:3000:30::1/64
Router(config-if)# ipv6 enable
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.40
Router(config-if)# ipv6 address 2a03:3000:40::1/64
Router(config-if)# ipv6 enable
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# interface LAN1.50
Router(config-if)# ipv6 address 2a03:3000:50::1/64
```

```
Router(config-if)# ipv6 enable
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# end
Router# write memory
```

Настройка DHCPv6:

```
Router# config
Router(config)# ipv6 dhcp pool Faculty_pool_v6
Router(dhcpv6-config)# address-prefix 2a03:3000:20::/64
Router(dhcpv6-config)# dns-server 2001:4860:4860::8888
2001:4860:4860::8844
Router(dhcpv6-config)# exit
Router(config)# ipv6 dhcp pool Students_pool_v6
Router(dhcpv6-config)# address-prefix 2a03:3000:30::/64
Router(dhcpv6-config)# dns-server 2001:4860:4860::8888
2001:4860:4860::8844
Router(dhcpv6-config)# exit
Router(config)# ipv6 dhcp pool Peripherals_pool_v6
Router(dhcpv6-config)# address-prefix 2a03:3000:40::/64
Router(dhcpv6-config)# dns-server 2001:4860:4860::8888
2001:4860:4860::8844
Router(dhcpv6-config)# exit
Router(config)# ipv6 dhcp pool Mobile_pool_v6
Router(dhcpv6-config)# address-prefix 2a03:3000:50::/64
Router(dhcpv6-config)# dns-server 2001:4860:4860::8888
2001:4860:4860::8844
Router(dhcpv6-config)# exit
Router(config)# end
Router# write memory
```

Настройка удаленного администрирования:

```
Router# config
Router(config)# ip ssh version 2
Router(config)# ip ssh authentication-retries 3
Router(config)# ip ssh timeout 120
Router(config)# line vty 0 4
Router(config-line)# login local
Router(config-line)# transport input ssh
Router(config-line)# exit
Router(config)# no service telnet
Router(config)# end
Router# write memory
```

Защита от DDoS-атак:

```
Router# config
Router(config)# ip rate-limit input 1000
Router(config)# end
```

```
Router# write memory
```

Настройка межсетевого экрана:

```
Router# config
Router(config)# ip access-list extended OUTBOUND
Router(config-ext-nacl)# permit ip any any
Router(config-ext-nacl)# exit
Router(config)# ip access-list extended INBOUND
Router(config-ext-nacl)# deny ip any any
Router(config-ext-nacl)# exit
Router(config)# interface WAN1
Router(config-if)# ip access-group INBOUND in
Router(config-if)# ip access-group OUTBOUND out
Router(config-if)# exit
Router(config)# end
Router# write memory
```

Настройка списков контроля доступа (ACL) для SSH и веб-интерфейса:

```
Router(config)# ip access-list extended SSH_ACCESS
Router(config-ext-nacl)# permit tcp 192.168.100.0/27 eq 22
Router(config-ext-nacl)# deny tcp any eq 22
Router(config-ext-nacl)# exit
Router(config)# interface WAN1
Router(config-if)# ip access-group SSH_ACCESS in
Router(config-if)# exit
Router(config)# ip access-list extended WEB_ACCESS
Router(config-ext-nacl)# permit tcp 192.168.100.0/27 eq 80
Router(config-ext-nacl)# permit tcp 192.168.100.0/27 eq 443
Router(config-ext-nacl)# deny tcp any eq 80
Router(config-ext-nacl)# deny tcp any eq 443
Router(config-ext-nacl)# exit
Router(config)# interface WAN1
Router(config-if)# ip access-group WEB_ACCESS in
Router(config-if)# exit
Router(config)# end
Router# write memory
```