**R1**

**1)**

enable

conf t

hostname R1

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**4)**

interface gigabitEthernet 0/1.218

encapsulation dot1Q 218

ip address 192.168.218.1 255.255.255.0

no shutdown

interface gigabitEthernet 0/1.118

encapsulation dot1Q 118

ip address 192.168.118.1 255.255.255.0

no shutdown

interface gigabitEthernet 0/0

no shutdown

(exit)

interface gigabitEthernet 0/1

no shutdown

**5)**

ip domain-lookup

ip dns server

ip name-server 9.9.9.9

**15)**

ip route 192.168.18.0 255.255.255.0 192.168.18.201

ip route 192.168.118.0 255.255.255.0 192.168.118.201

ip route 192.168.218.0 255.255.255.0 192.168.218.201

**16)**

(в gi0/1.212)

access-list 1 permit 192.168.218.0 0.0.0.255

ip nat inside source list 1 interface gi0/0 overload

(gi0/1.218)

ip nat inside

(gi0/0)

ip nat outside

**17)**

Gi0/0

ip address dhcp hostname R1

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentication default

**SW1**

**1)**

enable

conf t

hostname SW1

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**7)**

interface Port-Channel 1

(exit)

interface range gi0/1,gi0/2

channel-group 1 mode active

(exit/end)

(идём на SW2 и делаем всё по его командам)

interface Port-Channel 2

(exit)

interface range gi1/1,gi1/0

channel-group 2 mode active

(exit/end)

(идём на SW3 и делаем всё по его командам)

interface Port-Channel 1

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-configuration

interface Port-Channel 2

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-configuration

**8)**

vtp mode server

vtp domain LABAZ

vtp version 3

(exit)

vtp primary vlan

vlan 1N

name MGMT

vlan 2N

name Internet

vlan 3N

name Cash

**9)**

spanning-tree vlan 118,218,318 root primary

**10)**

interface gi0/0

switchport trunk encapsulation dot1q

switchport mode trunk

switchport trunk allowed vlan 118, 218

interface Port-Channel 1

switchport trunk allowed vlan 118,218,318

interface Port-Channel 2

switchport trunk allowed vlan 118,218,318

interface gi0/3

switchport trunk encapsulation dot1q

switchport mode trunk

switchport trunk allowed vlan 118, 218, 318

**11)**

interface vlan 218

ip address 192.168.218.201 255.255.255.0

no shutdown

ip domain-lookup

ip name-server 192.168.218.1

ip route 0.0.0.0 0.0.0.0 vlan218 192.168.218.1

**12)**

interface vlan 118

ip address 192.168.118.201 255.255.255.0

no shutdown

interface vlan 318

ip address 192.168.18.201 255.255.255.0

no shutdown

**17)**

ip dhcp excluded-address 192.168.218.1

ip dhcp excluded-address 192.168.218.201

ip dhcp excluded-address 192.168.18.201

ip dhcp excluded-address 192.168.118.201 192.168.118.205

ip dhcp excluded-address 192.168.118.2

ip dhcp excluded-address 192.168.218.2

ip dhcp excluded-address 192.168.18.2

ip dhcp pool INTERNET

network 192.168.218.0 255.255.255.0

default-router 192.168.218.201

dns-server 192.168.218.1

lease 10

ip dhcp pool CASH

network 192.168.18.0 255.255.255.0

default-router 192.168.18.201

lease 10

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentification default

**SW2**

**1)**

enable

conf t

hostname SW2

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**7)**

interface Port-Channel 1

(exit)

interface range gi0/1,gi0/0

channel-group 1 mode active

(exit/end)

interface Port-Channel 2

(exit)

interface range gi0/2,gi0/3

channel-group 2 mode active

(exit/end)

interface Port-Channel 1

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-configuration

interface Port-Channel 2

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-configuration

**8)**

vtp domain LABAZ

vtp version 3

vtp mode client

**6)**

interface range gi1/0,gi1/1

switchport trunk encapsulation dot1q

switchport mode trunk

**10)**

interface Port-Channel 1

switchport trunk allowed vlan 118,218,318

interface Port-Channel 2

switchport trunk allowed vlan 118,218,318

interface range gi1/0,gi1/1

switchport trunk allowed vlan 118,218,318

**13)**

interface vlan 118

ip address 192.168.118.202 255.255.255.0

no shutdown

ip route 0.0.0.0 0.0.0.0 vlan118 192.168.118.201

**14)**

ip domain-lookup

ip name-server 192.168.218.1

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentication default

**SW3**

**1)**

enable

conf t

hostname SW3

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**7)**

interface Port-Channel 1

(exit)

interface range gi0/1,gi0/0

channel-group 1 mode active

(exit/end)

interface Port-Channel 2

(exit)

interface range gi0/2,gi0/3

channel-group 2 mode active

(exit/end)

interface Port-Channel 1

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-configuration

interface Port-Channel 2

switchport trunk encapsulation dot1q

switchport mode trunk

(exit/end)

(проверка на то, что всё пашет)

show etherchannel summary

show running-config

**8)**

vtp domain LABAZ

vtp version 3

vtp mode client

**6)**

interface range gi1/0,gi1/1

switchport trunk encapsulation dot1q

switchport mode trunk

**10)**

interface Port-Channel 1

switchport trunk allowed vlan 118,218,318

interface Port-Channel 2

switchport trunk allowed vlan 118,218,318

interface range gi1/0,gi1/1

switchport trunk allowed vlan 118,218,318

**13)**

interface vlan 118

ip address 192.168.118.203 255.255.255.0

no shutdown

ip route 0.0.0.0 0.0.0.0 vlan118 192.168.118.201

**14)**

ip domain-lookup

ip name-server 192.168.218.1

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentication default

**SW4**

**1)**

enable

conf t

hostname SW4

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**8)**

vtp domain LABAZ

vtp version 3

vtp mode client

**6)**

interface range gi0/0,gi0/1

switchport trunk encapsulation dot1q

switchport mode trunk

**9)**

interface gi0/0

spanning-tree cost 3

**10)**

interface range gi0/0,gi0/1

switchport trunk allowed vlan 118,218,318

interface GigabitEthernet 1/0

switchport mode access

switchport access vlan 218

(exit/exit)

show mac address-table

**13)**

interface vlan 118

ip address 192.168.118.204 255.255.255.0

no shutdown

ip route 0.0.0.0 0.0.0.0 vlan118 192.168.118.201

**14)**

ip domain-lookup

ip name-server 192.168.218.1

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentication default

**SW5**

**1)**

enable

conf t

hostname SW5

**2,3)**

aaa new-model

service password-encryption

username admin privilege 15 password 0 admin18

username checker privilege 15 password 0 PfxtvXtrth!

aaa authentication login default local

enable secret admin18

**6)**

interface range gi0/1,gi0/0

switchport trunk encapsulation dot1q

switchport mode trunk

**8)**

vtp domain LABAZ

vtp version 3

vtp mode client

**9)**

interface gi0/0

spanning-tree cost 3

**10)**

interface range gi0/0,gi0/1

switchport trunk allowed vlan 118,218,318

interface GigabitEthernet 1/0

switchport mode access

switchport access vlan 318

(exit/exit)

show mac address-table

**13)**

interface vlan 118

ip address 192.168.118.205 255.255.255.0

no shutdown

ip route 0.0.0.0 0.0.0.0 vlan118 192.168.118.201

**14)**

ip domain-lookup

ip name-server 192.168.218.1

**ssh и no http/s)**

ip domain-name labaz.org

crypto key generate rsa

1024

no ip http server

no ip http secure-server

line vty 0 4

transport input ssh

login authentication default

**Server:**

network:

  version: 2

  renderer: networkd

  ethernets:

    eth0:

      dhcp4: no

  vlans:

    MGMT:

      id: 118

      link: eth0

      addresses: [192.168.118.2/24]

      dhcp4: no

      gateway4: 192.168.118.201

    Internet:

      id: 218

      link: eth0

      addresses: [192.168.218.2/24]

      dhcp4: no

      gateway4: 192.168.218.201

      nameservers:

        addresses: [192.168.218.1]

    Cash:

      id: 318

      link: eth0

      addresses: [192.168.18.2/24]

      dhcp4: no

      gateway4: 192.168.18.201

netplan apply