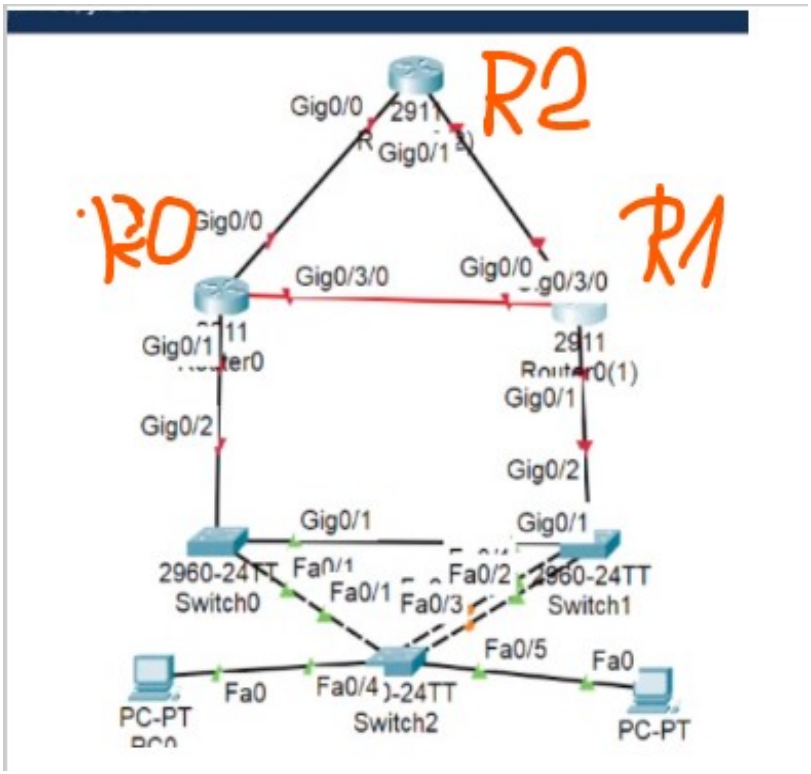
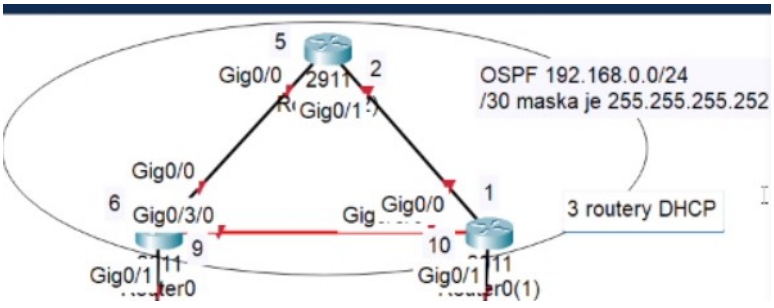
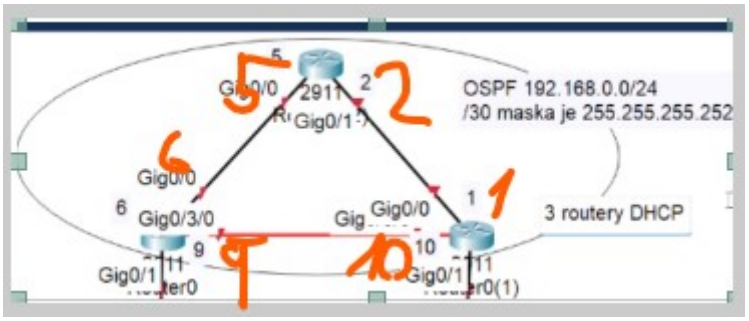
zadaní:
-3x routery 2911 - vypnout router, vložit GLC-LG-SMD a zapnout znova routry
-routery do trojuhelníku mezi 2 routery fiber (oranžový), zbytek nepřerušené kabely
-3x switch 2960-24TT, 2 switche naproti routrům propojit nepřerušeným + propojení switche routru,
zbytek přerušované a 1 switch propojit 2x (dvojitá linka)
-na spodní switch napojit 2 počítače



1. Rozpočítaní ip adres u routrů:





Router 1:
ena
conf t
int g0/0
ip add 192.168.0.1 255.255.255.252
no sh

int g0/3/0
ip add 192.168.0.10 255.255.255.252
no sh

Router 2:
ena
conf t
int g0/0
ip add 192.168.0.5 255.255.255.252
no sh

int g0/1
ip add 192.168.0.2 255.255.255.252
no sh

Router 0:
ena
conf t
int g0/0
ip add 192.168.0.6 255.255.255.252
no sh

int g0/3/0
ip add 192.168.0.9 255.255.255.252
no sh

2. Příprava OSPF:
255.255.255.0 == 0.0.0.255 inverzní maska
všechny příkazy na levlu - **conf t**
Router 1:
router ospf 1 (vždy stejné)
network (ip linky) (inverzní maska) area 0
network 192.168.0.10 0.0.0.3 area 0
network 192.168.0.1 0.0.0.3 area 0

Router 2:
router ospf 1
network 192.168.0.2 0.0.0.3 area 0
network 192.168.0.5 0.0.0.3 area 0

Router 0:
router ospf 1
network 192.168.0.6 0.0.0.3 area 0
network 192.168.0.9 0.0.0.3 area 0

Na kontrolu zda na routru OSPF funguje
do sh ip ospf nei

3. Loopback:

Pokud někde vypadnou adresy, routery se obrátí na vybraný router
Router 2:
int loopback 0
ip address 192.168.0.255 255.255.255.255

router ospf 1
network 192.168.0.255 0.0.0.0 area 0

4. Encapsulation:
Dělá se na propojení routru se switchem
Router 0:
int g0/1
no sh

int g0/1.1
encapsulation dot1Q (vlan)
encapsulation dot1Q 10
ip address 192.168.10.2 255.255.255.0
ip helper-address 192.168.0.255

int g0/1.2
encapsulation dot1Q 20
ip address 192.168.20.2 255.255.255.0
ip helper-address 192.168.0.255

router ospf 1
network 192.168.10.0 0.0.0.255 area 0
network 192.168.20.0 0.0.0.255 area 0

Router 2:
int g0/1
no sh

int g0/1.1
encapsulation dot1Q 10
ip address 192.168.10.3 255.255.255.0
ip helper-address 192.168.0.255

int g0/1.2
encapsulation dot1Q 20
ip address 192.168.20.3 255.255.255.0
ip helper-address 192.168.0.255

router ospf 1
network 192.168.10.0 0.0.0.255 area 0
network 192.168.20.0 0.0.0.255 area 0

5. HSTP:
Router 0:
int g0/1.1
standby ip 192.168.10.1
standby priority 100

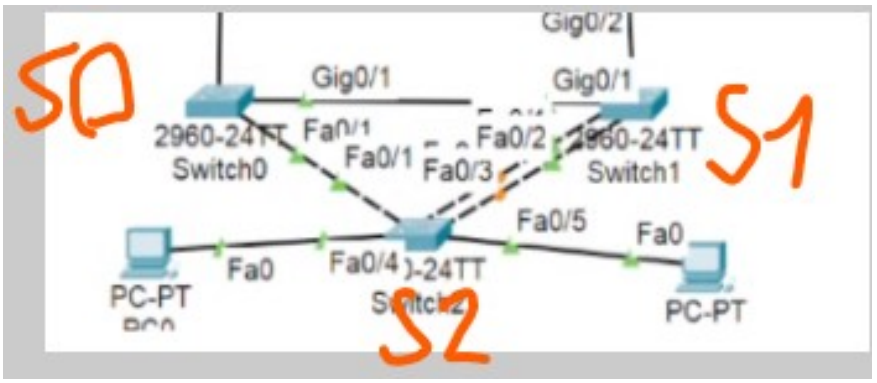
int g0/1.2
standby ip 192.168.20.1
standby priority 150

Router 2:

int g0/1.1
standby ip 192.168.10.1
standby priority 150

int g0/1.2
standby ip 192.168.20.1
standby priority 100

6. LACP – channel groups a trunky:
Trunk se nastaví všude, kromě propojení s počítači
Switch 1:
ena
conf t
int range f0/1 – 2
channel-group 1 mode active



int po1
switchport mode trunk

int G0/1
switchport mode trunk

int G0/2
switchport mode trunk

Switch 2:
int range f0/2 – 3
channel-group 1 mode active

int f0/1
switchport mode trunk

int po1
switchport mode trunk

Switch 0:
ena
conf t
int f0/1
switchport mode trunk

int G0/1
switchport mode trunk

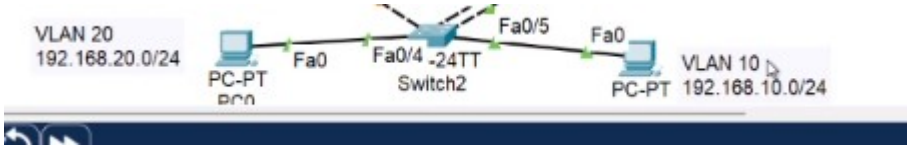
int G0/2
switchport mode trunk

7. VTP server:
Switch 2:
vtp mode server
vtp domain strojka
do write

Switch 0:
vtp mode client
vtp domain strojka
do write

Switch 1:
vtp mode client
vtp domain strojka
do write

8. Přidání počítačů do vlanu:



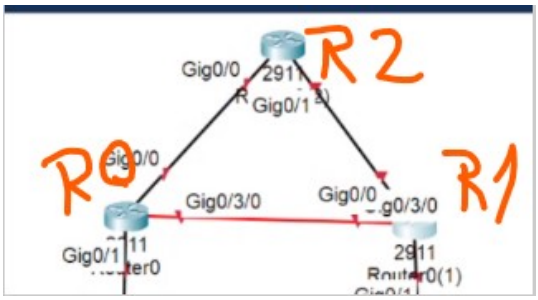
Switch 2:
int fa0/4
switchport mode access
switchport access vlan 20

int fa0/5
switchport mode access
switchport access vlan 10

9. DHCP
Router 2:
ip dhcp excluded-address (1. adresa od které se to bude brát) (poslední adresa)
ip dhcp excluded-address 192.168.10.0 192.168.10.10
ip dhcp excluded-address 192.168.20.0 192.168.20.10

ip dhcp pool dvacet
network 192.168.20.0 255.255.255.0
default-router 192.168.20.1

ip dhcp pool deset
network 192.168.10.0 255.255.255.0
default-router 192.168.10.1



10. SSH
Switch 2:
int vlan 20
ip address 192.168.20.10 255.255.255.0
exit
ip default-gateway 192.168.20.1

int vlan 10
ip address 192.168.10.10 255.255.255.0
exit

ip default-gateway 192.168.10.1

hostname switch2
ip domain-name iservery.com
crypto key generate rsa
2048 (jak velký bude klíč)
line vty 0 15
login local
transport input ssh
use
exit

username cisco password cisco
enable password cisco
service password-encryption

11. Spanning tree
Switch 2:
int f0/1
spanning-tree vlan 20 cost 8

Switch 0:
int f0/1
spanning-tree vlan 20 cost 8

12. Nastavení DHCP na počítači