

lab3

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- [github lab link](#)

task 1

1. Для всех маршрутизаторов сети добавить описание интерфейсов (*description*)
2. Установить пароли на привилегированный режим доступа
3. Добавить заголовки (*MOTD banner*)
4. Присвоить имена коммутаторам сети
5. Проверить правильность

1. description

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet 0/0
Router(config-if)#description descFE
Router(config-if)#exit
```

2. password

```
Router(config)#enable secret abcd1234
```

- check login:

```
Router#disable
Router>enable
Password:
Router#
```

3. banner

```
Router(config)#banner motd # THIS IS BANNER! #
```

4. hostname

```
Router(config)#hostname MainRouter
MainRouter#
```

5. config

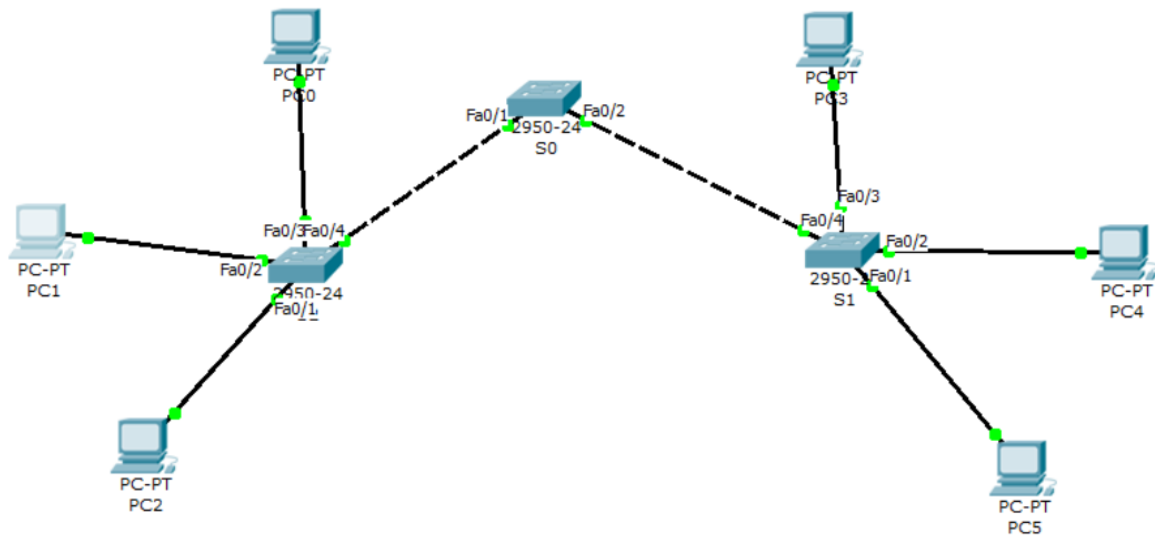
• MainRouter#show running-config:

```
Building configuration...

Current configuration : 737 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname MainRouter
!
enable secret 5 $mERr$cb.2iGZn12CECjdukdsKW.
!
spanning-tree mode pvst
!
interface FastEthernet0/0
  description descFE
  no ip address
  duplex auto
  speed auto
!
interface FastEthernet0/1
  no ip address
  duplex auto
  speed auto
!
interface Serial0/1/0
  description serial description 0/1/0
  no ip address
  clock rate 2000000
!
interface Serial0/1/1
  no ip address
  clock rate 2000000
!
interface Vlan1
  no ip address
  shutdown
!
ip classless
!
banner motd ^C THIS IS BANNER! ^C
!
line con 0
  password abcd1234
  login
line vty 0 4
  login
!
end
```

task 2

1. schema



- check network connection from PC0:

```
PC>ipconfig /all
```

```
Physical Address.....: 0000.0CD3.A902
IP Address.....: 172.17.10.21
Subnet Mask.....: 255.255.0.0
Default Gateway.....: 172.17.10.1
DNS Servers.....: 0.0.0.0
```

```
PC>ping 172.17.30.26
```

```
Pinging 172.17.30.26 with 32 bytes of data:
Reply from 172.17.30.26: bytes=32 time=234ms TTL=128
Reply from 172.17.30.26: bytes=32 time=109ms TTL=128
Reply from 172.17.30.26: bytes=32 time=93ms TTL=128
Reply from 172.17.30.26: bytes=32 time=125ms TTL=128

Ping statistics for 172.17.30.26:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 234ms, Average = 140ms
```

- check network connection from PC5:

```
PC>ipconfig /all
```

```
Physical Address.....: 0090.2104.3EE1
IP Address.....: 172.17.30.26
Subnet Mask.....: 255.255.0.0
Default Gateway.....: 172.17.30.1
DNS Servers.....: 0.0.0.0
```

```
PC>ping 172.17.10.21
```

```
Pinging 172.17.10.21 with 32 bytes of data:
Reply from 172.17.10.21: bytes=32 time=124ms TTL=128
Reply from 172.17.10.21: bytes=32 time=125ms TTL=128
Reply from 172.17.10.21: bytes=32 time=109ms TTL=128
Reply from 172.17.10.21: bytes=32 time=125ms TTL=128

Ping statistics for 172.17.10.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 109ms, Maximum = 125ms, Average = 120ms
```

2. Создать VLANs на коммутаторе s0

```
Switch>
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S0
S0(config)#vlan 10
S0(config-vlan)#name Faculty/Staff
S0(config-vlan)#vlan 20
S0(config-vlan)#name Students
S0(config-vlan)#vlan 30
S0(config-vlan)#name Guest(Default)
S0(config-vlan)#vlan 99
S0(config-vlan)#name Management&Native
S0(config-vlan)#exit
S0(config)#exit
```

- on s1 and s2 the same way

3. Проверить конфигурацию VLANs на всех коммутаторах

- S0#show vlan brief: (for s1 and s2 the same `)

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16

```
Fa0/17, Fa0/18, Fa0/19, Fa0/20  
Fa0/21, Fa0/22, Fa0/23, Fa0/24
```

```
10 Faculty/Staff active  
20 Students active  
30 Guest(Default) active  
99 Management&Native active  
1002 fddi-default active  
1003 token-ring-default active  
1004 fddinet-default active  
1005 trnet-default active
```

4. Назначить VLANs на порты

```
S1(config)#interface fastEthernet 0/3  
S1(config-if)#switchport mode access  
S1(config-if)#switchport access vlan 10  
S1(config-if)#interface fastEthernet 0/2  
S1(config-if)#switchport mode access  
S1(config-if)#switchport access vlan 20  
S1(config-if)#interface fastEthernet 0/1  
S1(config-if)#switchport mode access  
S1(config-if)#switchport access vlan 30
```

- Аналогичная настройка для s2
- Пакеты не доходят, т.к. VLANs не настроены на портах s0

5. Конфигурирование trunk портов

- for s0:

```
S0(config)#interface fastEthernet 0/1  
S0(config-if)#switchport mode trunk  
S0(config-if)#  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed  
state to down  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed  
state to up  
S0(config-if)#switchport trunk native vlan 99  
S0(config-if)#interface fastEthernet 0/2  
S0(config-if)#switchport mode trunk  
S0(config-if)#  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed  
state to down  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed  
state to up  
S0(config-if)#exit  
S0(config)#exit
```

- for s1 and s2:











```
S2(config)#interface fastEthernet 0/4  
S2(config-if)#switchport mode trunk
```

```

S2(config-if)#
  %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed
state to down
  %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed
state to up
S2(config-if)#switchport trunk native vlan 99
S2(config-if)#
  %SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/4 on VLAN0099.
Port consistency restored.
  %SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/4 on VLAN0001.
Port consistency restored.
S2(config-if)#exit
S2(config)#exit

```

6. Протестировать сеть

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
	Successful	PC3	PC0	ICMP		0.000	N	0	(edit)	(delete)
	Failed	PC3	PC4	ICMP		0.000	N	1	(edit)	(delete)
	Successful	PC1	PC4	ICMP		0.000	N	2	(edit)	(delete)
	Successful	PC2	PC5	ICMP		0.000	N	3	(edit)	(delete)
	Failed	PC2	PC3	ICMP		0.000	N	4	(edit)	(delete)

- S1>show vlan brief:

```

10 Faculty/Staff active Fa0/3
20 Students active Fa0/2
30 Guest(Default) active Fa0/1
99 Management&Native active

```