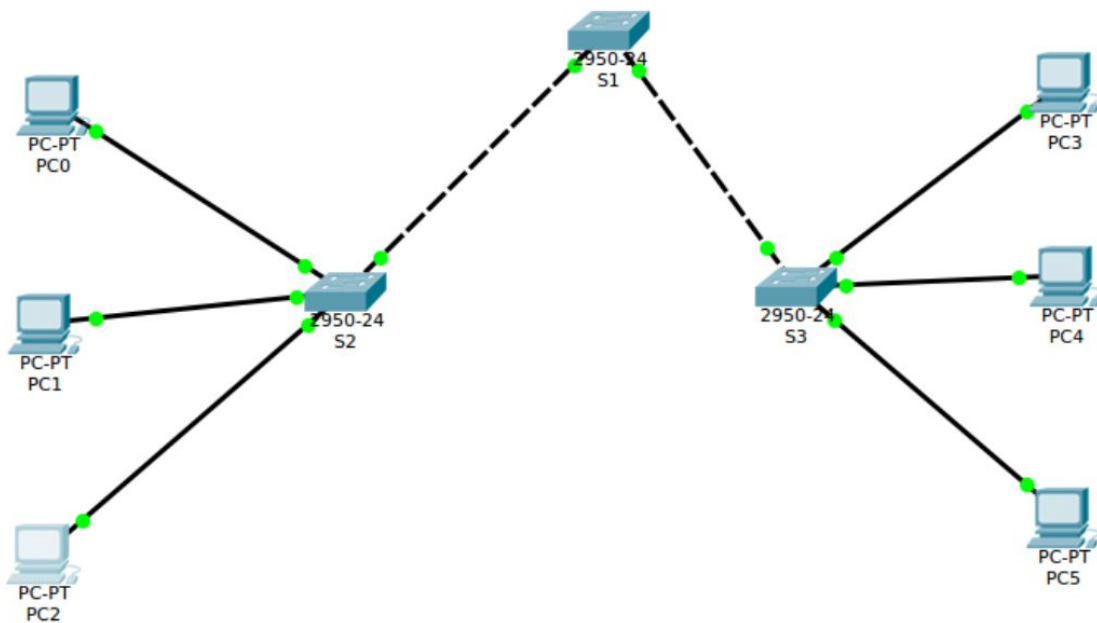


Лабараторная работа 2 частка 2

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Канфігуруем вузлы сеткі: выстаўляем шлюзы па змоўчванні, задаем IP-адрасы вузлам.
Упэўніваемся, што PCi і PCj дасягальныя паміж сабой:

```
PC>ping 172.17.2.1

Pinging 172.17.2.1 with 32 bytes of data:

Reply from 172.17.2.1: bytes=32 time=1ms TTL=128
Reply from 172.17.2.1: bytes=32 time=0ms TTL=128
Reply from 172.17.2.1: bytes=32 time=0ms TTL=128
Reply from 172.17.2.1: bytes=32 time=0ms TTL=128

Ping statistics for 172.17.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```

Створюємо VLAN на комутаторах S1, S2, S3:

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname S1
S1(config)#vlan 10
S1(config-vlan)#name Faculty/Staff
S1(config-vlan)#vlan 20
S1(config-vlan)#name Students
S1(config-vlan)#vlan 30
S1(config-vlan)#name Guest(default)
S1(config-vlan)#vlan 99
S1(config-vlan)#name Management&Native
S1(config-vlan)#exit
```

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname S1
S1(config)#vlan 10
S1(config-vlan)#name Faculty/Staff
S1(config-vlan)#vlan 20
S1(config-vlan)#name Students
S1(config-vlan)#vlan 30
S1(config-vlan)#name Guest(default)
S1(config-vlan)#vlan 99
S1(config-vlan)#name Management&Native
S1(config-vlan)#exit
```

Аналогічно на двох інших комутаторах.

Конфігурація VLAN на всіх комутаторах:

```
S1#show vlan brief
```

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	

```
S1#
```

```
S2#show vlan brief
```

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	

```
S2#
```

```
S3#show vlan brief
```

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	Guests(default)	active	
99	Management&Native	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
S3#
```

Назначаємо VLAN на порти S2 (на S3 аналогічна):

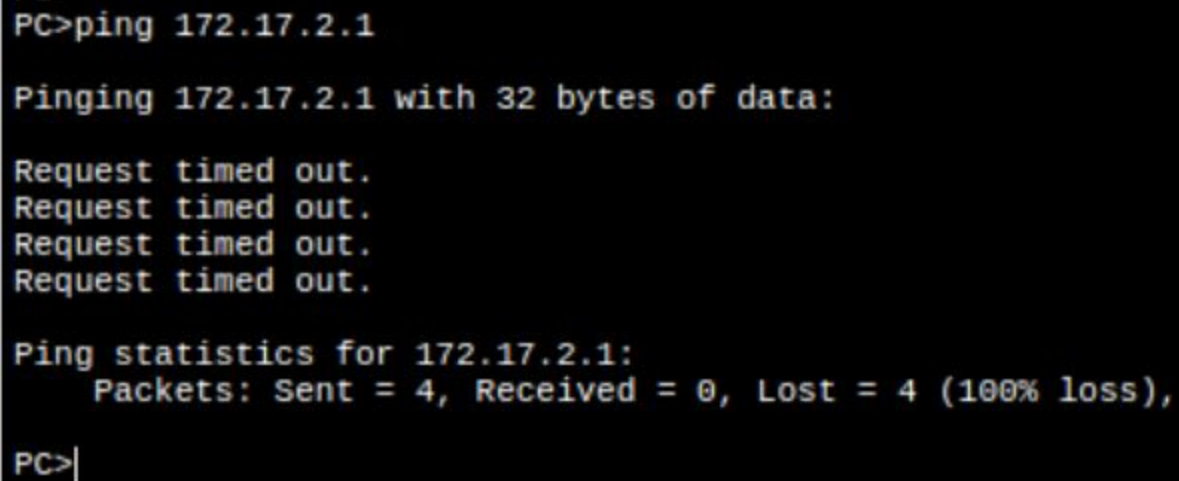
```
S2#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
S2(config)#interface FastEthernet0/6
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 30
S2(config-if)#interface FastEthernet0/11
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 10
S2(config-if)#interface FastEthernet0/18
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 20
S2(config-if)#
```

```
S2#configure terminal
```

Enter configuration commands, one per line. End with CNTL/Z.

```
S2(config)#interface FastEthernet0/6
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 30
S2(config-if)#interface FastEthernet0/11
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 10
S2(config-if)#interface FastEthernet0/18
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 20
S2(config-if)#
```

Згубілі злучнасць у падсетках:



```
PC>ping 172.17.2.1

Pinging 172.17.2.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.17.2.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>|
```

Праблема ў тым, што не наладзілі VLAN на S1.

Канфігуруем trunk порты на S1, S2, S3.

Fa0/1 і Fa0/3 на S1:


```

S1>enable
S1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
S1(config)#interface FastEthernet0/1
S1(config-if)#switchport mode trunk

S1(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

S1(config-if)#switchport trunk native vlan 99
S1(config-if)#interface FastEthernet0/3
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

S1(config-if)#switchport trunk native vlan 99
S1(config-if)#

```

Fa0/1 на S2:

```

S2(config-if)#
S2(config-if)#interface FastEthernet0/1
S2(config-if)#switchport mode trunk
S2(config-if)#switchport trunk native vlan 99
S2(config-if)#%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on VLAN0099.
Port consistency restored.

%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on VLAN0001. Port
consistency restored.

S2(config-if)#

```

Fa0/3 на S3:

```

S3(config-if)#
S3(config-if)#interface FastEthernet0/3
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 99
S3(config-if)#%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/3 on VLAN0099.
Port consistency restored.

%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/3 on VLAN0001. Port
consistency restored.

S3(config-if)#

```

Тэструем сетку:

Вузлы ў адной лагічнай падсетцы - дасягальныя, у розных - не:

```

PC>ping 172.17.4.1

Pinging 172.17.4.1 with 32 bytes of data:

Reply from 172.17.4.1: bytes=32 time=1ms TTL=128
Reply from 172.17.4.1: bytes=32 time=0ms TTL=128
Reply from 172.17.4.1: bytes=32 time=0ms TTL=128
Reply from 172.17.4.1: bytes=32 time=0ms TTL=128

Ping statistics for 172.17.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 172.17.3.1

Pinging 172.17.3.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.17.3.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>

```

На прыкладзе S2: show vlan brief, show vlan name Students (інфармацыя vlan па імені).

```

S3#show vlan brief

```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/4, Fa0/5 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/12, Fa0/13, Fa0/14, Fa0/15 Fa0/16, Fa0/17, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24
10	Faculty/Staff	active	Fa0/11
20	Students	active	Fa0/18
30	Guests(default)	active	Fa0/6
99	Management&Native	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```

S3#

```

S3#show vlan name Students

VLAN	Name	Status	Ports
20	Students	active	Fa0/18

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
20	enet	100020	1500	-	-	-	-	-	0	0

S3#