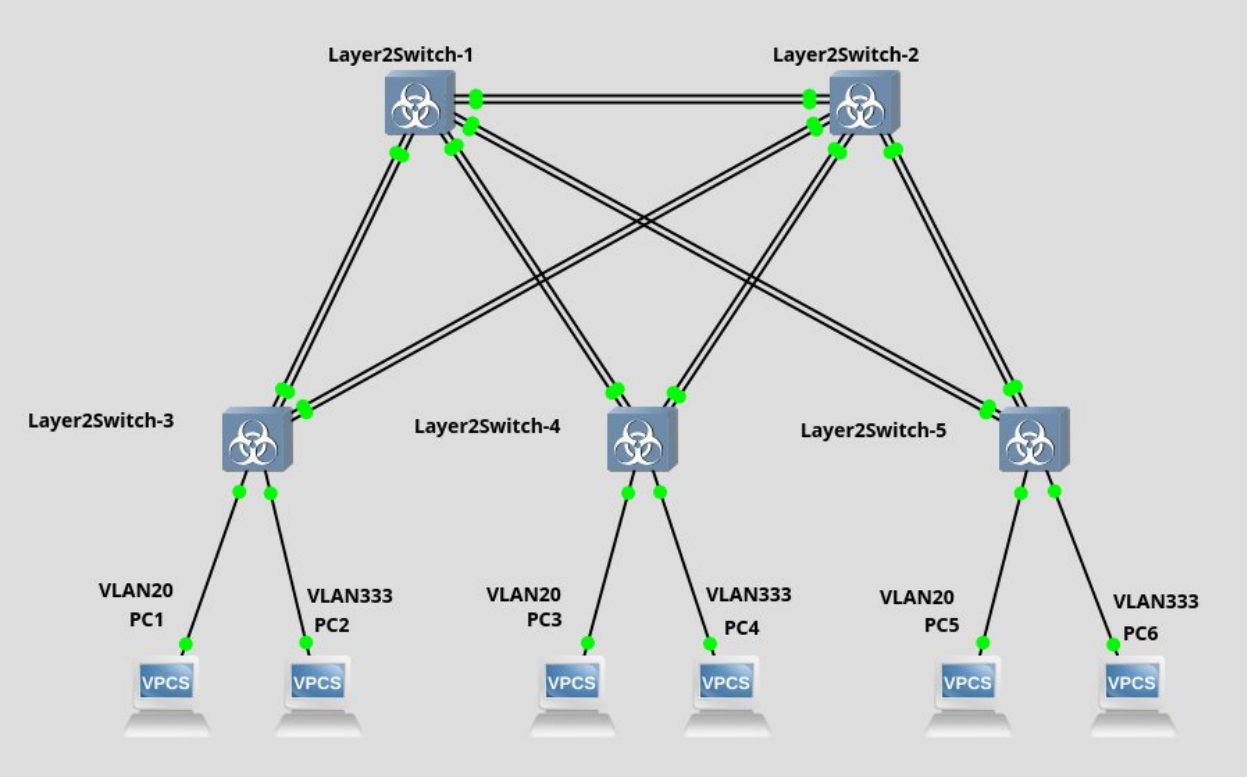
Лабораторная работа №3

Пункт 1



Начнем с назначения ip-адресов для VPCS из 2 разных сетей (192.168.2.0/24 для VLAN20 и 192.168.3.0/24 для VLAN333).

```
(PC1)

ip 192.168.2.1 /24

(PC2)

ip 192.168.3.1 /24

(PC3)

ip 192.168.2.2 /24

(PC4)

ip 192.168.3.2 /24

(PC5)
```

```
ip 192.168.2.3 /24

(PC6)

ip 192.168.3.3 /24
```

Далее настроим коммутаторы:

```
(Layer2Switch-3)

Enable

Configure

int gigabitEthernet 1/0

description pc1

switchport mode access

switchport access vlan 20

exit

int gigabitEthernet 1/1

description pc2

switchport mode access

switchport access vlan 333

exit

int gigabitEthernet 0/0

switchport trunk encapsulation dot1q

switchport mode trunk

switchport trunk native vlan 333

switchport trunk allowed vlan 20,333

exit

int gigabitEthernet 0/1

switchport trunk encapsulation dot1q
```

```
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 0/3
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
```

(Layer2Switch-1)

```
Enable
Configure
int gigabitEthernet 0/0
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
```

```
exit
int gigabitEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 0/3
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 1/0
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
```

```
int gigabitEthernet 1/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 1/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
int gigabitEthernet 1/3
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 333
switchport trunk allowed vlan 20,333
exit
```

Для остальных коммутаторов процесс настройки аналогичен

Пункт 2

Проверим доступность компьютеров внутри одного VLAN и недоступность в разных, для этого выполним ping с PC1 (VLAN20) и с PC4 (VLAN333)

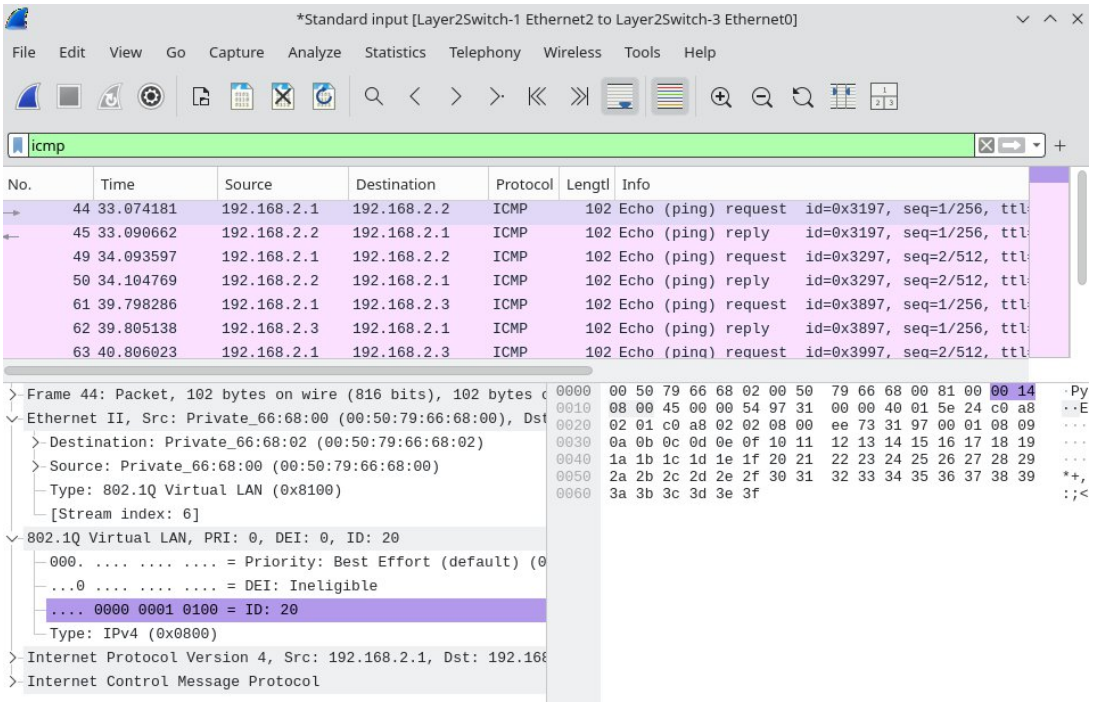
```
PC1> ping 192.168.2.2

84 bytes from 192.168.2.2 icmp_seq=1 ttl=64 time=20.137 ms
84 bytes from 192.168.2.2 icmp_seq=2 ttl=64 time=13.995 ms
^C
PC1> ping 192.168.2.3

84 bytes from 192.168.2.3 icmp_seq=1 ttl=64 time=7.412 ms
84 bytes from 192.168.2.3 icmp_seq=2 ttl=64 time=6.717 ms
^C
PC1> ping 192.168.3.1

No gateway found

PC1> ping 192.168.3.2

No gateway found

PC1> ping 192.168.3.3

No gateway found

PC1>
```

```
PC4> ping 192.168.3.1

84 bytes from 192.168.3.1 icmp_seq=1 ttl=64 time=16.391 ms
84 bytes from 192.168.3.1 icmp_seq=2 ttl=64 time=11.578 ms
^C
PC4> ping 192.168.3.3

84 bytes from 192.168.3.3 icmp_seq=1 ttl=64 time=14.387 ms
84 bytes from 192.168.3.3 icmp_seq=2 ttl=64 time=13.449 ms
^C
PC4> ping 192.168.2.1

No gateway found

PC4> ping 192.168.2.2

No gateway found

PC4> ping 192.168.2.3

No gateway found

PC4>
```

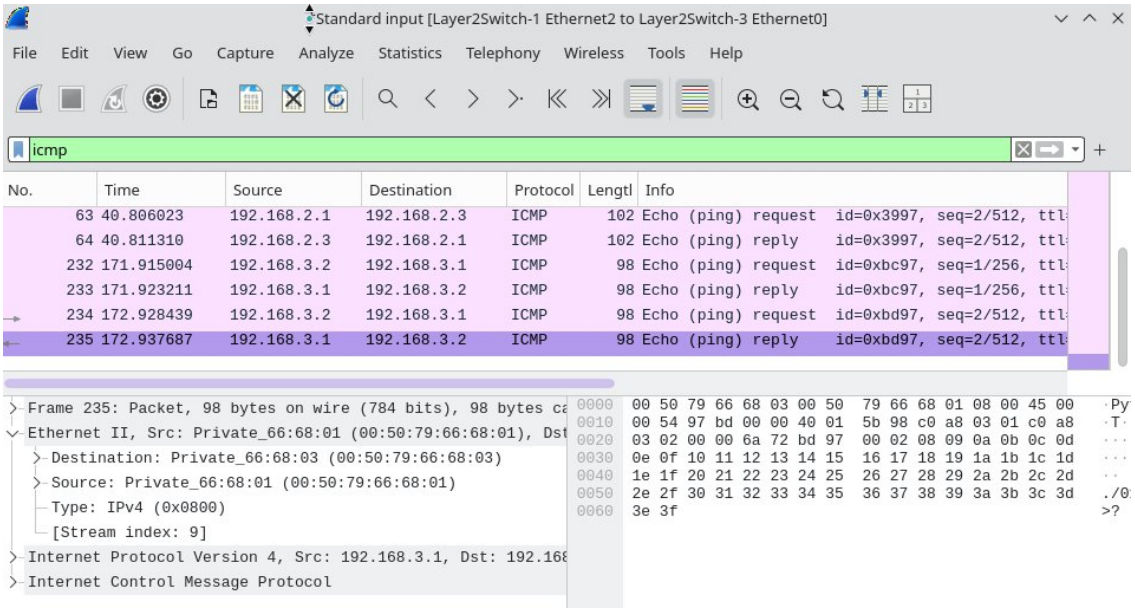
Пункт 3

При помощи wireshark перехватим пакеты с тегами и без

Тегированные ICMP ping пакеты из VLAN 20 (захвачены на линке Layer2Switch-1 eth2 — Layer2Switch-3 eth0):



Нетегированные (Native VLAN) ICMP ping пакеты из VLAN 333 (захвачены на линке Layer2Switch-1 eth2 — Layer2Switch-3 eth0):



Пункт 4

Сохраним файлы конфигураций устройств с именами, соответствующими именам устройств. Конфигурацию получим при помощи «show running»