

# Презентация по лабораторной работе №5

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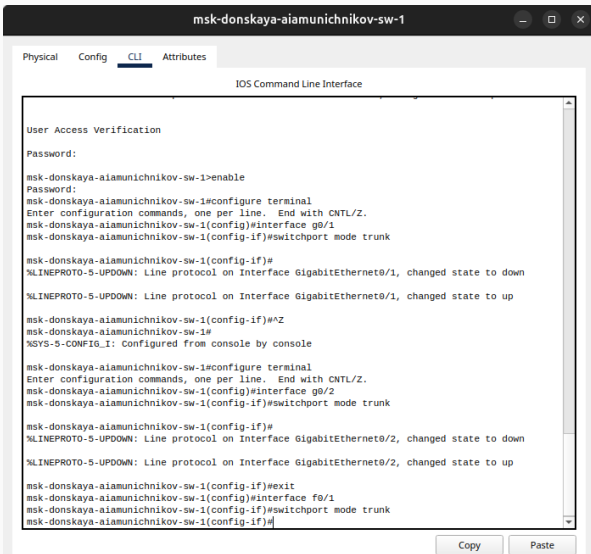
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Получить основные навыки по настройке VLAN на коммутаторах сети.



Используя последовательность из текста лабораторной работы проводим конфигурацию Trunk-порта на коммутаторе msk-donskaya-aiamunichnikov-sw-1



```
msk-donskaya-aiamunichnikov-sw-1
Physical Config CLI Attributes
IOS Command Line Interface

User Access Verification
Password:

msk-donskaya-aiamunichnikov-sw-1>enable
Password:
msk-donskaya-aiamunichnikov-sw-1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-aiamunichnikov-sw-1(config)#interface g0/1
msk-donskaya-aiamunichnikov-sw-1(config-if)#switchport mode trunk

msk-donskaya-aiamunichnikov-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

msk-donskaya-aiamunichnikov-sw-1(config-if)#^Z
msk-donskaya-aiamunichnikov-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-aiamunichnikov-sw-1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-aiamunichnikov-sw-1(config)#interface g0/2
msk-donskaya-aiamunichnikov-sw-1(config-if)#switchport mode trunk

msk-donskaya-aiamunichnikov-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

msk-donskaya-aiamunichnikov-sw-1(config-if)#exit
msk-donskaya-aiamunichnikov-sw-1(config)#interface f0/1
msk-donskaya-aiamunichnikov-sw-1(config-if)#switchport mode trunk
msk-donskaya-aiamunichnikov-sw-1(config-if)#
```

Используя последовательность из текста лабораторной работы проводим конфигурацию Trunk-порта на коммутаторе msk-pavlovskaya-aiaunichnikov-sw-1



```
msk-pavlovskaya-sw-1

Physical Config CLI Attributes

IOS Command Line Interface

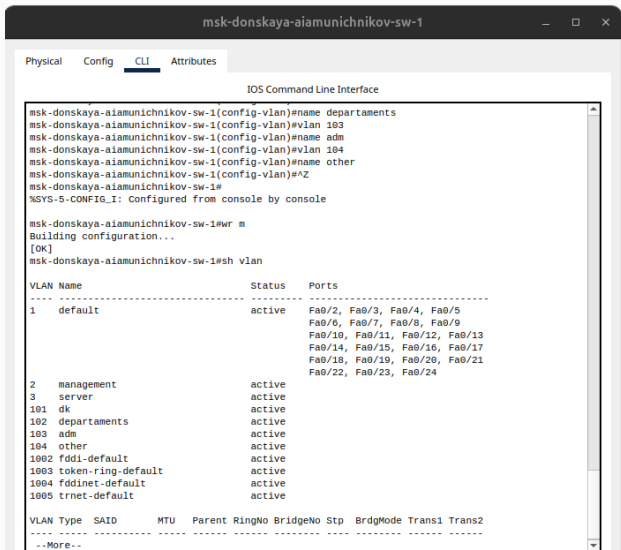
% Invalid input detected at '^' marker.

msk-pavlovskaya-sw-1(config)#interface f0/24
msk-pavlovskaya-sw-1(config-if)#switchport mode trunk
msk-pavlovskaya-sw-1(config-if)#^Z
msk-pavlovskaya-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-pavlovskaya-sw-1#wr m
Building configuration...
[OK]
msk-pavlovskaya-sw-1#sh r
Building configuration...

Current configuration : 1434 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname msk-pavlovskaya-sw-1
!
enable secret 5 $1$mERr$hX5rVt7rPNoS4wqbXXK7m0
!
!
!
ip ssh version 1
ip domain-name doskaya.rudn.edu
!
username admin secret 5 $1$mERr$hX5rVt7rPNoS4wqbXXK7m0
!
!
!
--More--
```

# Прописываем конфигурацию диапазонов портов и конфигурации VTP msk-donskaya-aiamunichnikov-sw-01



```
msk-donskaya-aiamunichnikov-sw-1
Physical Config CLI Attributes
IOS Command Line Interface
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#name departaments
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#vlan 103
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#name adm
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#vlan 104
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#name other
msk-donskaya-aiamunichnikov-sw-1(config-vlan)#^Z
msk-donskaya-aiamunichnikov-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

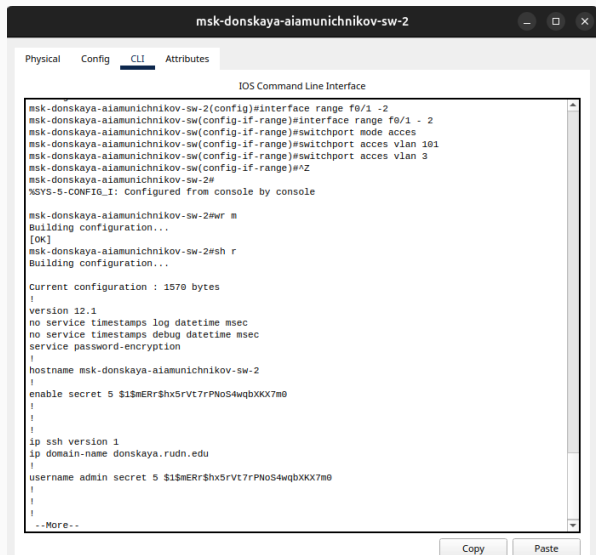
msk-donskaya-aiamunichnikov-sw-1#wr m
Building configuration...
[OK]
msk-donskaya-aiamunichnikov-sw-1#sh vlan

VLAN Name                Status    Ports
-----
1    default                active    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

2    management              active
3    server                  active
101  dk                       active
102  departaments             active
103  adm                      active
104  other                    active
1002 fddi-default             active
1003 token-ring-default      active
1004 fddinet-default         active
1005 trnet-default           active

VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp    BrdgMode Trans1 Trans2
-----
--More--
```

# Прописываем конфигурацию диапазонов портов и конфигурации VTP msk-donskaya-aiamunichnikov-sw-02



The screenshot shows a window titled "msk-donskaya-aiamunichnikov-sw-2" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The terminal shows the following sequence of commands and output:

```
msk-donskaya-aiamunichnikov-sw-2(config)#interface range f0/1 -2
msk-donskaya-aiamunichnikov-sw(config-if-range)#interface range f0/1 - 2
msk-donskaya-aiamunichnikov-sw(config-if-range)#switchport mode acces
msk-donskaya-aiamunichnikov-sw(config-if-range)#switchport acces vlan 101
msk-donskaya-aiamunichnikov-sw(config-if-range)#switchport acces vlan 3
msk-donskaya-aiamunichnikov-sw(config-if-range)#^Z
msk-donskaya-aiamunichnikov-sw-2#
%SYS-5-CONFIG_I: Configured from console by console

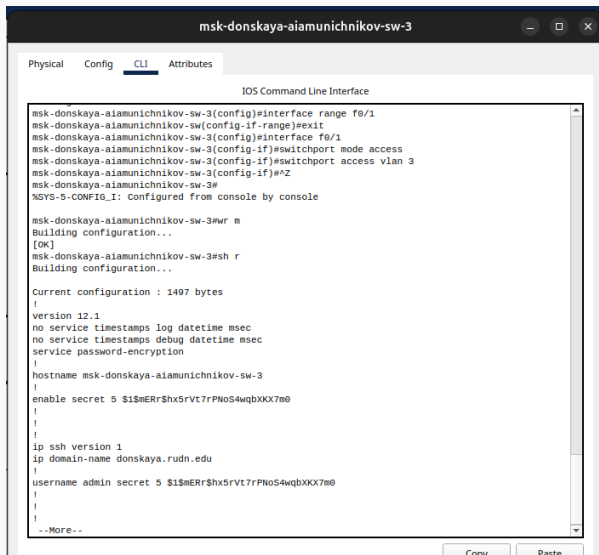
msk-donskaya-aiamunichnikov-sw-2#wr m
Building configuration...
[OK]
msk-donskaya-aiamunichnikov-sw-2#sh r
Building configuration...

Current configuration : 1570 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname msk-donskaya-aiamunichnikov-sw-2
!
enable secret 5 $1$mErr$hX5rVt7rPNoS4wqbXKX7m0
!
!
!
ip ssh version 1
ip domain-name donskeya.rudn.edu
!
username admin secret 5 $1$mErr$hX5rVt7rPNoS4wqbXKX7m0
!
!
--More--
```

At the bottom of the window, there are "Copy" and "Paste" buttons.



# Прописываем конфигурацию диапазонов портов и конфигурации VTP msk-donskaya-aiamunichnikov-sw-03



The screenshot shows a network configuration window titled "msk-donskaya-aiamunichnikov-sw-3". It has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area is labeled "IOS Command Line Interface" and contains the following text:

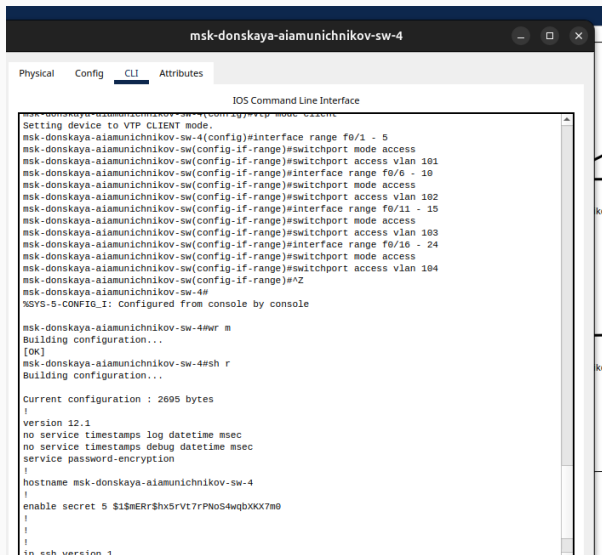
```
msk-donskaya-aiamunichnikov-sw-3(config)#interface range f0/1
msk-donskaya-aiamunichnikov-sw-3(config-if-range)#exit
msk-donskaya-aiamunichnikov-sw-3(config)#interface f0/1
msk-donskaya-aiamunichnikov-sw-3(config-if)#switchport mode access
msk-donskaya-aiamunichnikov-sw-3(config-if)#switchport access vlan 3
msk-donskaya-aiamunichnikov-sw-3(config-if)#^Z
msk-donskaya-aiamunichnikov-sw-3#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-aiamunichnikov-sw-3#wr m
Building configuration...
[OK]
msk-donskaya-aiamunichnikov-sw-3#sh r
Building configuration...

Current configuration : 1497 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname msk-donskaya-aiamunichnikov-sw-3
!
enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0
!
!
!
ip ssh version 1
ip domain-name donskeya.rudn.edu
!
username admin secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0
!
!
--More--
```

At the bottom of the window, there are "Copy" and "Paste" buttons.

# Прописываем конфигурацию диапазонов портов и конфигурации VTP msk-donskaya-aiamunichnikov-sw-04



```
msk-donskaya-aiamunichnikov-sw-4
Physical Config CLI Attributes
IOS Command Line Interface
msk-donskaya-aiamunichnikov-sw-4(config)#vtp mode client
Setting device to VTP CLIENT mode.
msk-donskaya-aiamunichnikov-sw-4(config)#interface range f0/1 - 5
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport mode access
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport access vlan 101
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#interface range f0/6 - 10
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport mode access
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport access vlan 102
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#interface range f0/11 - 15
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport mode access
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport access vlan 103
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#interface range f0/16 - 24
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport mode access
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#switchport access vlan 104
msk-donskaya-aiamunichnikov-sw-4(config-if-range)#^Z
msk-donskaya-aiamunichnikov-sw-4#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-aiamunichnikov-sw-4#wr m
Building configuration...
[OK]
msk-donskaya-aiamunichnikov-sw-4#sh r
Building configuration...

Current configuration : 2605 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname msk-donskaya-aiamunichnikov-sw-4
!
enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0
!
!
!
in ssh version 1
```

В построенной сети все коммутаторы активны

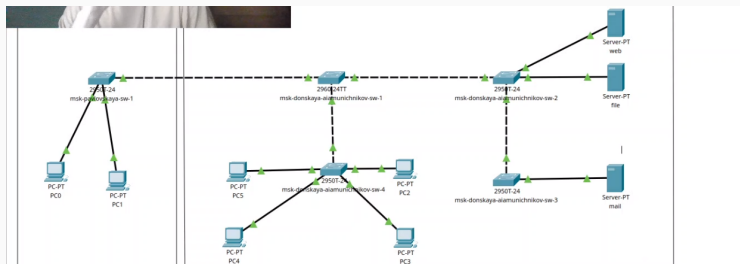


Рис. 7: Построенная и настроенная сеть

Проверим результат проделанной работы на der-donskaya-aiaamunichnikov-1 и попробуем пропинговать устройство из другой сети. Неудачно

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: FE80::207:ECFF:FE87:6365
    IPv6 Address.....: ::
    IPv4 Address.....: 10.128.3.2
    Subnet Mask.....: 255.0.0.0
    Default Gateway.....: ::
                           10.128.3.1

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: ::
    IPv6 Address.....: ::
    IPv4 Address.....: 0.0.0.0
    Subnet Mask.....: 0.0.0.0
    Default Gateway.....: ::
                           0.0.0.0

C:\>ping
```

☐ Top

Рис. 8: Проверка корректности

```
C:\>ping 10.128.3.3

Pinging 10.128.3.3 with 32 bytes of data:

Reply from 10.128.3.3: bytes=32 time=39ms TTL=128
Reply from 10.128.3.3: bytes=32 time<1ms TTL=128
Reply from 10.128.3.3: bytes=32 time<1ms TTL=128
Reply from 10.128.3.3: bytes=32 time<1ms TTL=128

Ping statistics for 10.128.3.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 39ms, Average = 9ms

C:\>ping 10.128.6.2

Pinging 10.128.6.2 with 32 bytes of data:

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

Ping statistics for 10.128.6.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

☐ Top

Рис. 9: Неудачная попытка

Используя режим симуляции, изучим процесс передвижения пакета ICMP по сети.

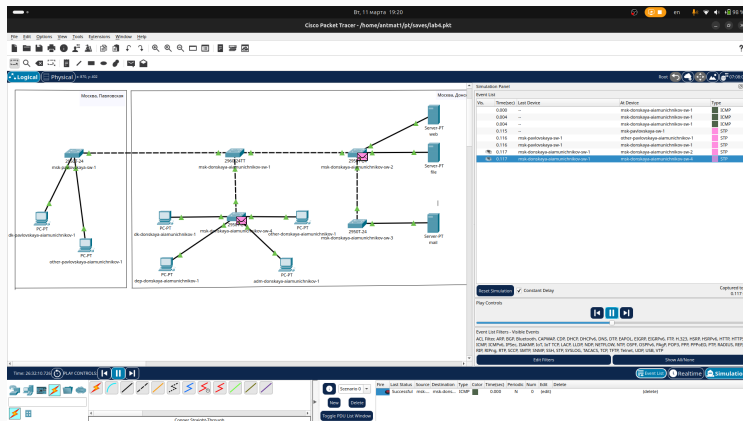


Рис. 10: Запуск симуляции

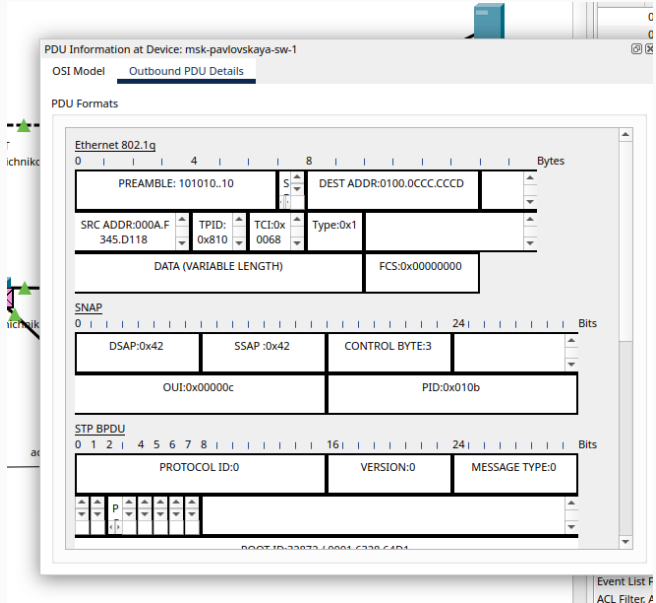


Рис. 11: Разбор одного из отправленных пакетов

Получили основные навыки по настройке VLAN на коммутаторах сети.