Лабораторная работа №5

Конфигурирование VLAN

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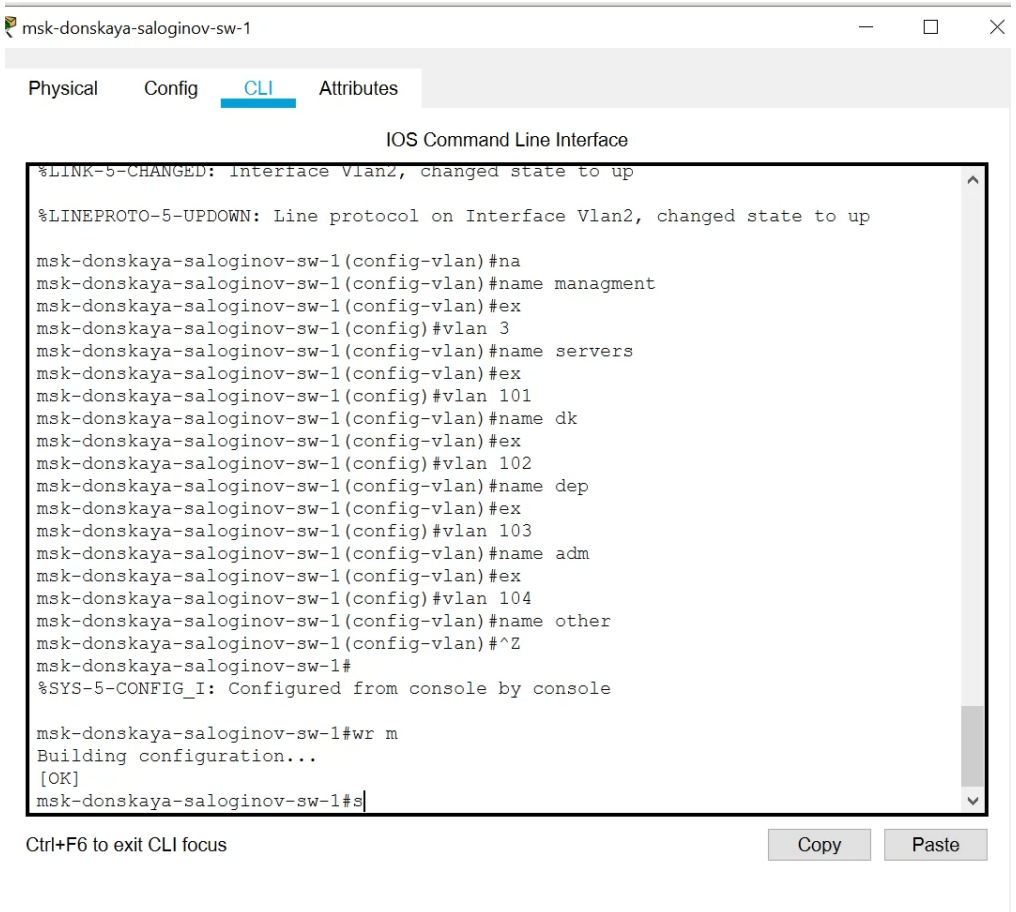
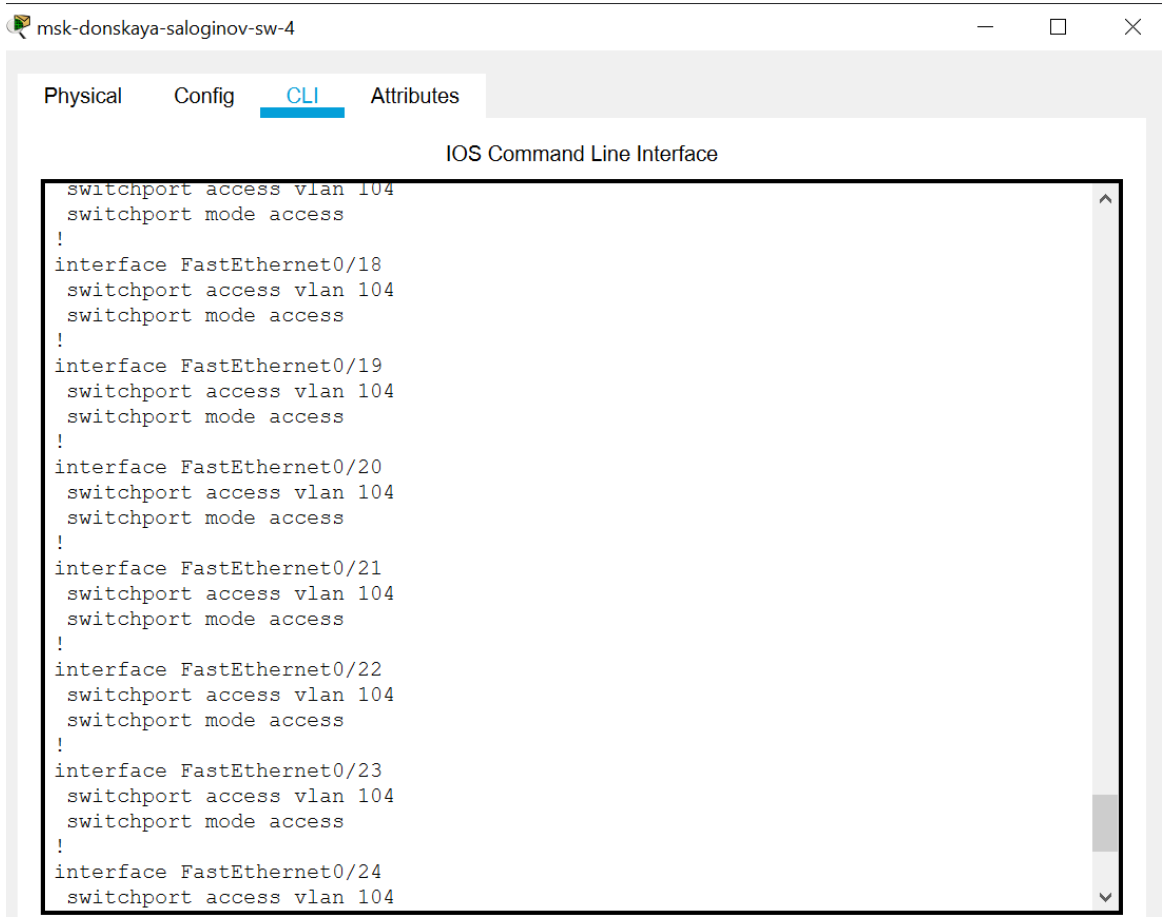
Этап 1

msk-donskaya-saloginov-sw-1
Physical
Config
CLI
Attributes
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
 switchport mode trunk
!
interface GigabitEthernet0/1
 switchport mode trunk
!
interface GigabitEthernet0/2
 switchport mode trunk
!
interface Vlan1
 no ip address
 shutdown
!
interface Vlan2
 mac-address 0001.43e2.0501
 ip address 10.128.1.2 255.255.255.0
!
 --More--

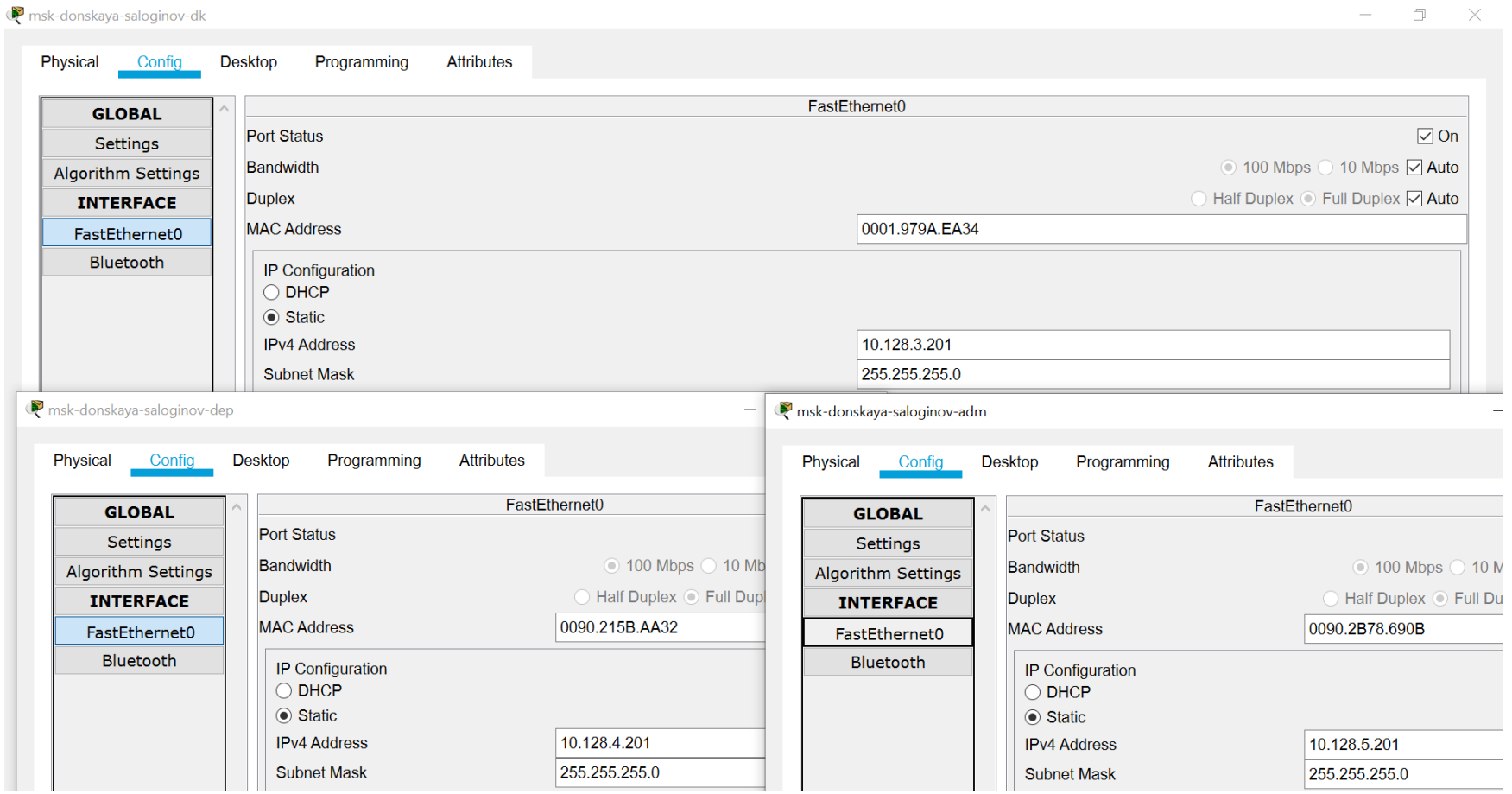
Этап 2


msk-donskaya-saloginov-sw-1
Physical
Config
CLI
Attributes
IOS Command Line Interface
%LINK-5-CHANGED: Interface Vlan2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan2, changed state to up
msk-donskaya-saloginov-sw-1(config-vlan)#na
msk-donskaya-saloginov-sw-1(config-vlan)#name managment
msk-donskaya-saloginov-sw-1(config-vlan)#ex
msk-donskaya-saloginov-sw-1(config)#vlan 3
msk-donskaya-saloginov-sw-1(config-vlan)#name servers
msk-donskaya-saloginov-sw-1(config-vlan)#ex
msk-donskaya-saloginov-sw-1(config)#vlan 101
msk-donskaya-saloginov-sw-1(config-vlan)#name dk
msk-donskaya-saloginov-sw-1(config-vlan)#ex
msk-donskaya-saloginov-sw-1(config)#vlan 102
msk-donskaya-saloginov-sw-1(config-vlan)#name dep
msk-donskaya-saloginov-sw-1(config-vlan)#ex
msk-donskaya-saloginov-sw-1(config)#vlan 103
msk-donskaya-saloginov-sw-1(config-vlan)#name adm
msk-donskaya-saloginov-sw-1(config-vlan)#ex
msk-donskaya-saloginov-sw-1(config)#vlan 104
msk-donskaya-saloginov-sw-1(config-vlan)#name other
msk-donskaya-saloginov-sw-1(config-vlan)#^Z
msk-donskaya-saloginov-sw-1#
%SYS-5-CONFIG_I: Configured from console by console
msk-donskaya-saloginov-sw-1#wr m
Building configuration...
[OK]
msk-donskaya-saloginov-sw-1#s
Ctrl+F6 to exit CLI focus
Copy
Paste

Этап 3


msk-donskaya-saloginov-sw-4
Physical
Config
CLI
Attributes
IOS Command Line Interface
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/18
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/19
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/20
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/21
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/22
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/23
switchport access vlan 104
switchport mode access
!
interface FastEthernet0/24
switchport access vlan 104

Этап 4


msk-donskaya-saloginov-dk
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0001.979A.EA34
IP Configuration
DHCP
Static
IPv4 Address
10.128.3.201
Subnet Mask
255.255.255.0
msk-donskaya-saloginov-dep
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
Bandwidth
100 Mbps
Duplex
Half Duplex
MAC Address
0090.215B.AA32
IP Configuration
DHCP
Static
IPv4 Address
10.128.4.201
Subnet Mask
255.255.255.0
msk-donskaya-saloginov-adm
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
Bandwidth
100 Mbps
Duplex
Half Duplex
MAC Address
0090.2B78.690B
IP Configuration
DHCP
Static
IPv4 Address
10.128.5.201
Subnet Mask
255.255.255.0

Этап 5

msk-donskaya-saloginov-dk

Physical Config Desktop Programming Attributes

Command Prompt

```
   IPv6 Address....................: ::
   IPv4 Address....................: 10.128.3.201
   Subnet Mask.....................: 255.255.255.0
   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 10.128.3.202

Pinging 10.128.3.202 with 32 bytes of data:

Reply from 10.128.3.202: bytes=32 time=12ms TTL=128
Reply from 10.128.3.202: bytes=32 time=10ms TTL=128
Reply from 10.128.3.202: bytes=32 time<1ms TTL=128
Reply from 10.128.3.202: bytes=32 time<1ms TTL=128

Ping statistics for 10.128.3.202:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 5ms
```

msk-donskaya-saloginov-dk

Physical Config Desktop Programming Attributes

Command Prompt

```
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 10.128.3.202

Pinging 10.128.3.202 with 32 bytes of data:

Reply from 10.128.3.202: bytes=32 time=12ms TTL=128
Reply from 10.128.3.202: bytes=32 time=10ms TTL=128
Reply from 10.128.3.202: bytes=32 time<1ms TTL=128
Reply from 10.128.3.202: bytes=32 time<1ms TTL=128

Ping statistics for 10.128.3.202:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 5ms

C:\>ping 10.128.4.201

Pinging 10.128.4.201 with 32 bytes of data:

Request timed out.
```

Контрольные вопросы

- Какая команда используется для просмотра списка VLAN на сетевом устройстве?
- Охарактеризуйте VLAN Trunking Protocol (VTP). Приведите перечень команд с пояснениями для настройки и просмотра информации о VLAN.
- Охарактеризуйте Internet Control Message Protocol (ICMP). Опишите формат пакета ICMP.
- Охарактеризуйте Address Resolution Protocol (ARP). Опишите формат пакета ARP.
- Что такое MAC-адрес? Какова его структура?