

# Лабораторная Работа №4. Первоначальное конфигурирование сети

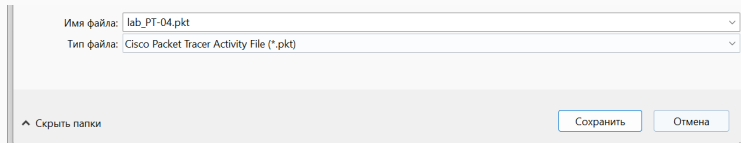
Администрирование локальных сетей

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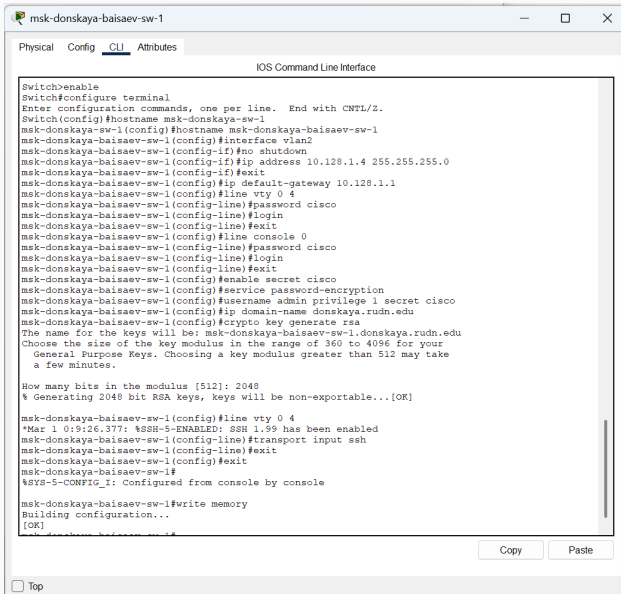


**Figure 1:** Создание нового проекта.

Размещение коммутаторов и оконченных устройств согласно схеме сети L1.

**Figure 2:** Размещение коммутаторов и оконченных устройств согласно схеме сети L1.

# Настройка коммутаторов



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

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-sw-1
msk-donskaya-sw-1(config)#hostname msk-donskaya-baisaev-sw-1
msk-donskaya-baisaev-sw-1(config)#interface vlan2
msk-donskaya-baisaev-sw-1(config-if)#no shutdown
msk-donskaya-baisaev-sw-1(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-baisaev-sw-1(config-if)#exit
msk-donskaya-baisaev-sw-1(config)#ip default-gateway 10.128.1.1
msk-donskaya-baisaev-sw-1(config)#line vty 0 4
msk-donskaya-baisaev-sw-1(config-line)#password cisco
msk-donskaya-baisaev-sw-1(config-line)#login
msk-donskaya-baisaev-sw-1(config-line)#exit
msk-donskaya-baisaev-sw-1(config)#line console 0
msk-donskaya-baisaev-sw-1(config-line)#password cisco
msk-donskaya-baisaev-sw-1(config-line)#login
msk-donskaya-baisaev-sw-1(config-line)#exit
msk-donskaya-baisaev-sw-1(config)#enable secret cisco
msk-donskaya-baisaev-sw-1(config)#service password-encryption
msk-donskaya-baisaev-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-baisaev-sw-1(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-baisaev-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-baisaev-sw-1.donskeya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

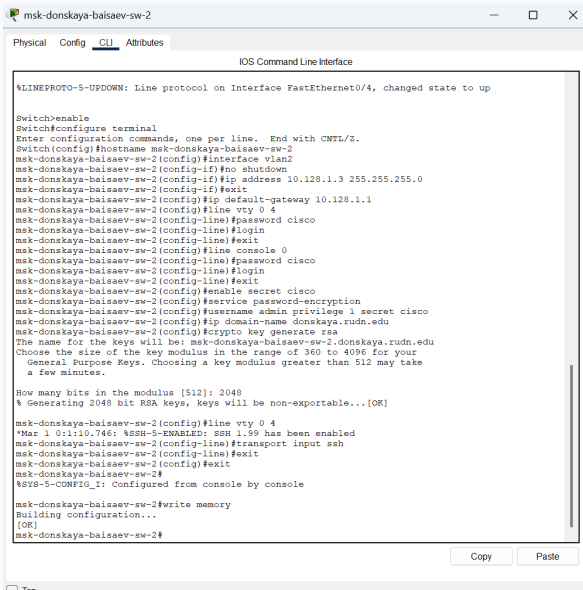
msk-donskaya-baisaev-sw-1(config)#line vty 0 4
*Mar 1 0:9:26.377: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-baisaev-sw-1(config-line)#transport input ssh
msk-donskaya-baisaev-sw-1(config-line)#exit
msk-donskaya-baisaev-sw-1(config)#exit
msk-donskaya-baisaev-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-baisaev-sw-1#write memory
Building configuration...
[OK]
```

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# Настройка коммутаторов



```
msk-donskaya-baisaev-sw-2
Physical Config CLI Attributes
IOS Command Line Interface

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-baisaev-sw-2
msk-donskaya-baisaev-sw-2(config)#interface Vlan2
msk-donskaya-baisaev-sw-2(config-if)#no shutdown
msk-donskaya-baisaev-sw-2(config-if)#ip address 10.128.1.3 255.255.255.0
msk-donskaya-baisaev-sw-2(config-if)#exit
msk-donskaya-baisaev-sw-2(config)#ip default-gateway 10.128.1.1
msk-donskaya-baisaev-sw-2(config)#line vty 0 4
msk-donskaya-baisaev-sw-2(config-line)#password cisco
msk-donskaya-baisaev-sw-2(config-line)#login
msk-donskaya-baisaev-sw-2(config-line)#exit
msk-donskaya-baisaev-sw-2(config)#line console 0
msk-donskaya-baisaev-sw-2(config-line)#password cisco
msk-donskaya-baisaev-sw-2(config-line)#login
msk-donskaya-baisaev-sw-2(config-line)#exit
msk-donskaya-baisaev-sw-2(config)#enable secret cisco
msk-donskaya-baisaev-sw-2(config)#service password-encryption
msk-donskaya-baisaev-sw-2(config)#username admin privilege 1 secret cisco
msk-donskaya-baisaev-sw-2(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-baisaev-sw-2(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-baisaev-sw-2.donskeya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

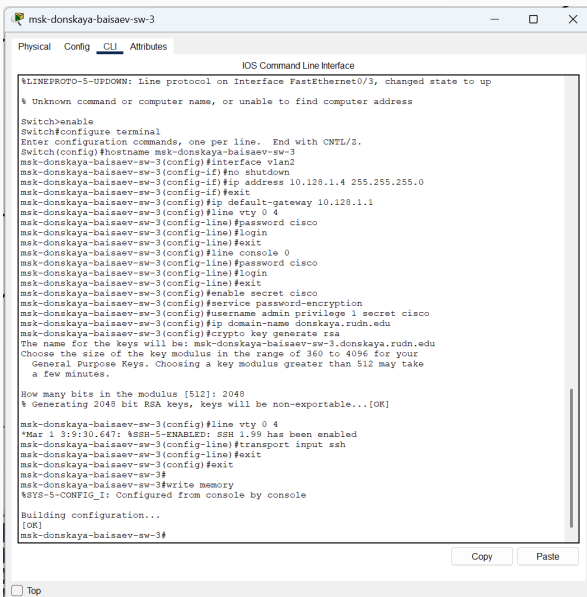
msk-donskaya-baisaev-sw-2(config)#line vty 0 4
*Mar 1 0:1:10.746: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-baisaev-sw-2(config-line)#transport input ssh
msk-donskaya-baisaev-sw-2(config-line)#exit
msk-donskaya-baisaev-sw-2(config)#exit
msk-donskaya-baisaev-sw-2#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-baisaev-sw-2#write memory
Building configuration...
[OK]
msk-donskaya-baisaev-sw-2#
```

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# Настройка коммутаторов



```
msk-donskaya-baisaev-sw-3
Physical Config CLI Attributes
IOS Command Line Interface

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

% Unknown command or computer name, or unable to find computer address

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-baisaev-sw-3
msk-donskaya-baisaev-sw-3(config)#interface vlan2
msk-donskaya-baisaev-sw-3(config-if)#no shutdown
msk-donskaya-baisaev-sw-3(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-baisaev-sw-3(config-if)#exit
msk-donskaya-baisaev-sw-3(config)#ip default-gateway 10.128.1.1
msk-donskaya-baisaev-sw-3(config)#line vty 0 4
msk-donskaya-baisaev-sw-3(config-line)#password cisco
msk-donskaya-baisaev-sw-3(config-line)#login
msk-donskaya-baisaev-sw-3(config-line)#exit
msk-donskaya-baisaev-sw-3(config)#line console 0
msk-donskaya-baisaev-sw-3(config-line)#password cisco
msk-donskaya-baisaev-sw-3(config-line)#login
msk-donskaya-baisaev-sw-3(config-line)#exit
msk-donskaya-baisaev-sw-3(config)#enable secret cisco
msk-donskaya-baisaev-sw-3(config)#service password-encryption
msk-donskaya-baisaev-sw-3(config)#username admin privilege 1 secret cisco
msk-donskaya-baisaev-sw-3(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-baisaev-sw-3(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-baisaev-sw-3.donsokaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

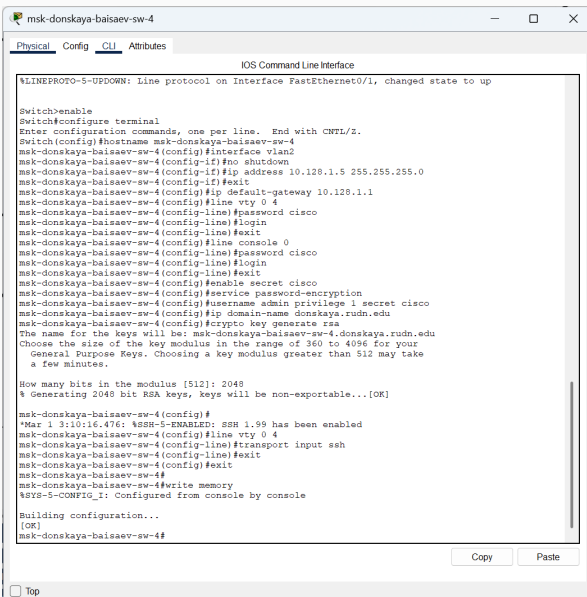
How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-baisaev-sw-3(config)#line vty 0 4
*Mar 1 3:9:30.647: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-baisaev-sw-3(config-line)#transport input ssh
msk-donskaya-baisaev-sw-3(config-line)#exit
msk-donskaya-baisaev-sw-3(config)#exit
msk-donskaya-baisaev-sw-3#
msk-donskaya-baisaev-sw-3#write memory
%SYS-5-CONFIG_I: Configured from console by console

Building configuration...
[OK]
msk-donskaya-baisaev-sw-3#
```

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# Настройка коммутаторов



```
msk-donskaya-baisaev-sw-4
Physical Config CLI Attributes
IOS Command Line Interface

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-baisaev-sw-4
msk-donskaya-baisaev-sw-4(config)#interface vlan2
msk-donskaya-baisaev-sw-4(config-if)#no shutdown
msk-donskaya-baisaev-sw-4(config-if)#ip address 10.128.1.5 255.255.255.0
msk-donskaya-baisaev-sw-4(config-if)#exit
msk-donskaya-baisaev-sw-4(config)#ip default-gateway 10.128.1.1
msk-donskaya-baisaev-sw-4(config)#line vty 0 4
msk-donskaya-baisaev-sw-4(config-line)#password cisco
msk-donskaya-baisaev-sw-4(config-line)#login
msk-donskaya-baisaev-sw-4(config-line)#exit
msk-donskaya-baisaev-sw-4(config)#line console 0
msk-donskaya-baisaev-sw-4(config-line)#password cisco
msk-donskaya-baisaev-sw-4(config-line)#login
msk-donskaya-baisaev-sw-4(config-line)#exit
msk-donskaya-baisaev-sw-4(config)#enable secret cisco
msk-donskaya-baisaev-sw-4(config)#service password-encryption
msk-donskaya-baisaev-sw-4(config)#username admin privilege 1 secret cisco
msk-donskaya-baisaev-sw-4(config)#ip domain-name donsкаya.rudn.edu
msk-donskaya-baisaev-sw-4(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-baisaev-sw-4.donskaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-baisaev-sw-4(config)#
*Mar 1 3:10:16.476: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-baisaev-sw-4(config)#line vty 0 4
msk-donskaya-baisaev-sw-4(config-line)#transport input ssh
msk-donskaya-baisaev-sw-4(config-line)#exit
msk-donskaya-baisaev-sw-4(config)#exit
msk-donskaya-baisaev-sw-4#
msk-donskaya-baisaev-sw-4#write memory
%SYS-5-CONFIG_I: Configured from console by console

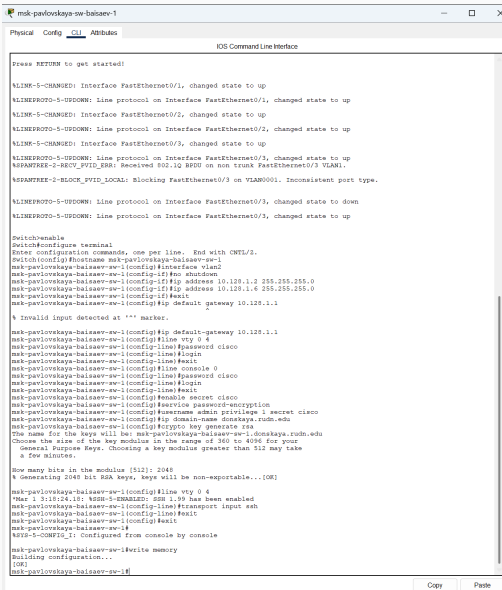
Building configuration...
[OK]
msk-donskaya-baisaev-sw-4#
```

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# Настройка коммутаторов



```
msk-pavlovskaya-sw-baisaev-1
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

%LINE-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINE-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINE-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%SPANTRER-2-RECV_FVID_ERR: Received 802.1Q PVID on non trunk FastEthernet0/3 VLAN1.
%SPANTRER-2-BLOCK_PVID_LOCAL: Blocking FastEthernet0/3 on VLAN0001. Inconsistent port type.
%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

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-pavlovskaya-baisaev-sw-1
msk-pavlovskaya-baisaev-sw-1(config)#interface vlan2
msk-pavlovskaya-baisaev-sw-1(config-if)#no shutdown
msk-pavlovskaya-baisaev-sw-1(config-if)#ip address 10.128.1.2 255.255.255.0
msk-pavlovskaya-baisaev-sw-1(config-if)#ip address 10.128.1.6 255.255.255.0
msk-pavlovskaya-baisaev-sw-1(config-if)#exit
msk-pavlovskaya-baisaev-sw-1(config)#ip default gateway 10.128.1.1
msk-pavlovskaya-baisaev-sw-1(config)#ip default-gateway 10.128.1.1
msk-pavlovskaya-baisaev-sw-1(config)#line vty 0 4
msk-pavlovskaya-baisaev-sw-1(config-line)#password cisco
msk-pavlovskaya-baisaev-sw-1(config-line)#login
msk-pavlovskaya-baisaev-sw-1(config-line)#exit
msk-pavlovskaya-baisaev-sw-1(config)#line console 0
msk-pavlovskaya-baisaev-sw-1(config-line)#password cisco
msk-pavlovskaya-baisaev-sw-1(config-line)#login
msk-pavlovskaya-baisaev-sw-1(config-line)#exit
msk-pavlovskaya-baisaev-sw-1(config)#enable secret cisco
msk-pavlovskaya-baisaev-sw-1(config)#service password-encryption
msk-pavlovskaya-baisaev-sw-1(config)#username admin privilege 1 secret cisco
msk-pavlovskaya-baisaev-sw-1(config)#ip domain-name donskaya.rudn.edu
msk-pavlovskaya-baisaev-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-pavlovskaya-baisaev-sw-1.donskaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

msk-pavlovskaya-baisaev-sw-1(config)#line vty 0 4
%Mac 1 1:1:1:1:1:1: 8226-5-ENABLED: SSH 1.99 has been enabled
msk-pavlovskaya-baisaev-sw-1(config-line)#transport input ssh
msk-pavlovskaya-baisaev-sw-1(config-line)#exit
msk-pavlovskaya-baisaev-sw-1(config)#exit
msk-pavlovskaya-baisaev-sw-1#
SYS-5-CONFIG_I: Configured from console by console

msk-pavlovskaya-baisaev-sw-1#write memory
Building configuration...
[OK]
msk-pavlovskaya-baisaev-sw-1#
```

В ходе выполнения лабораторной работы мы научились проводить подготовительную работу по первоначальной настройке коммутаторов сети.