

Защита лабораторной работы №4

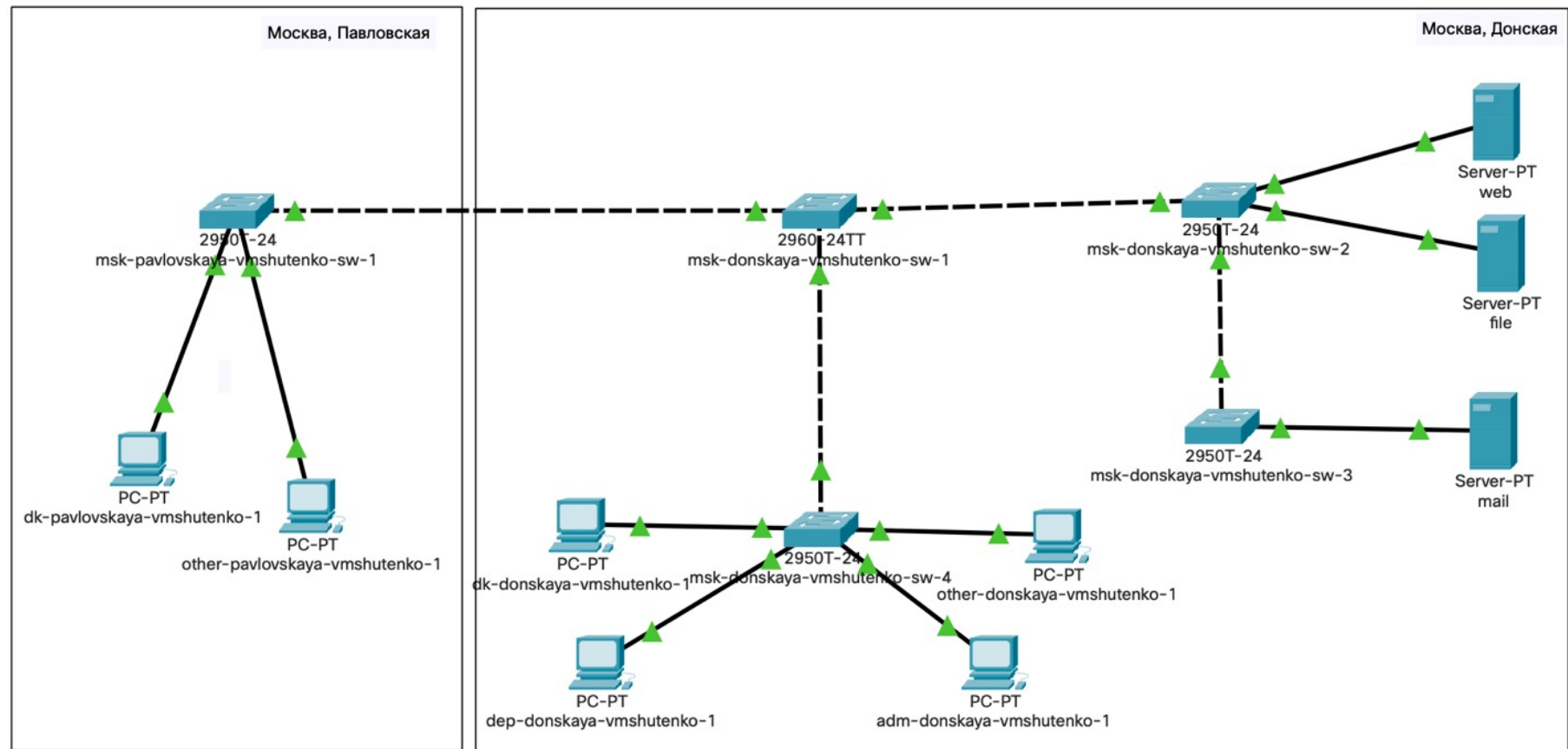
Цель лабораторной работы

- Провести подготовительную работу по первоначальной настройке коммутаторов сети

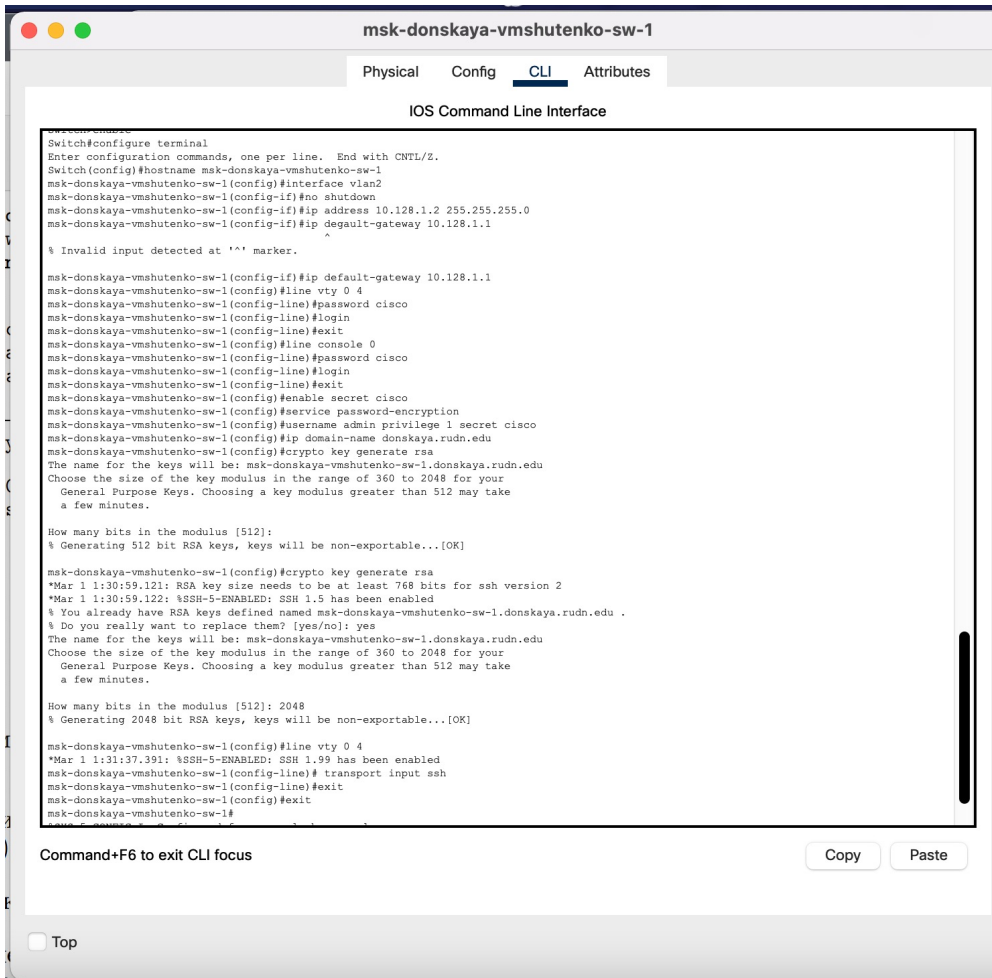
Задание лабораторной работы

- Требуется сделать первоначальную настройку коммутаторов сети, представленной на схеме L1 (см. рис. 3.1 из раздела 3.3).
- Под первоначальной настройкой понимается указание имени устройства, его IP-адреса, настройка доступа по паролю к виртуальным терминалам и консоли, настройка удалённого доступа к устройству по ssh.
- При выполнении работы необходимо учитывать соглашение об именовании
- (см. раздел 2.5).

Схема сети



Настройка коммутаторов



```
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-vmshutenko-sw-1
msk-donskaya-vmshutenko-sw-1(config)#interface vlan2
msk-donskaya-vmshutenko-sw-1(config-if)#no shutdown
msk-donskaya-vmshutenko-sw-1(config-if)#ip address 10.128.1.2 255.255.255.0
msk-donskaya-vmshutenko-sw-1(config-if)#ip default-gateway 10.128.1.1
^
% Invalid input detected at '^' marker.

msk-donskaya-vmshutenko-sw-1(config-if)#ip default-gateway 10.128.1.1
msk-donskaya-vmshutenko-sw-1(config)#line vty 0 4
msk-donskaya-vmshutenko-sw-1(config-line)#password cisco
msk-donskaya-vmshutenko-sw-1(config-line)#login
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#line console 0
msk-donskaya-vmshutenko-sw-1(config-line)#password cisco
msk-donskaya-vmshutenko-sw-1(config-line)#login
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#enable secret cisco
msk-donskaya-vmshutenko-sw-1(config)#service password-encryption
msk-donskaya-vmshutenko-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-vmshutenko-sw-1(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-vmshutenko-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-vmshutenko-sw-1.donsokaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

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

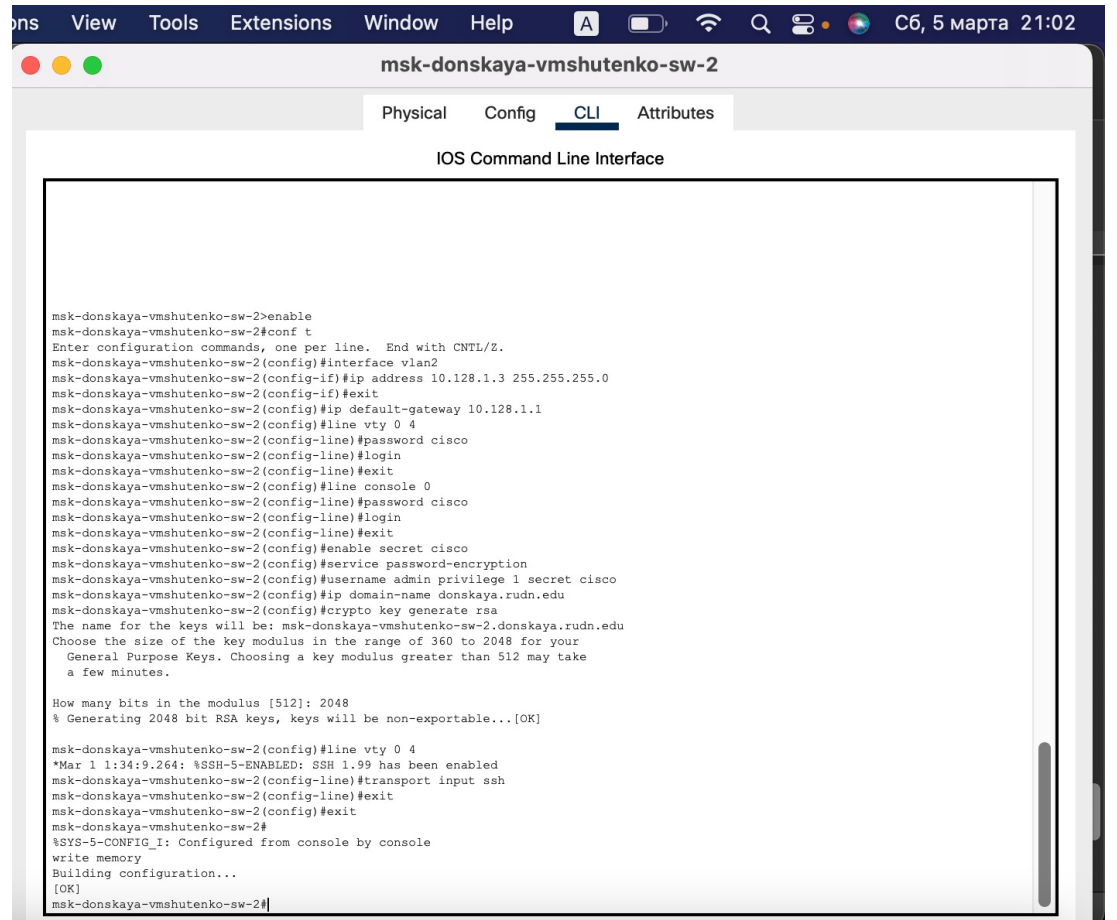
msk-donskaya-vmshutenko-sw-1(config)#crypto key generate rsa
*Mar 1 1:30:59.121: RSA key size needs to be at least 768 bits for ssh version 2
*Mar 1 1:30:59.122: %SSH-5-ENABLED: SSH 1.5 has been enabled
% You already have RSA keys defined named msk-donskaya-vmshutenko-sw-1.donsokaya.rudn.edu
% Do you really want to replace them? [yes/no]: yes
The name for the keys will be: msk-donskaya-vmshutenko-sw-1.donsokaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 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-vmshutenko-sw-1(config)#line vty 0 4
*Mar 1 1:31:37.391: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-vmshutenko-sw-1(config-line)#transport input ssh
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#exit
msk-donskaya-vmshutenko-sw-1#
```

Command+F6 to exit CLI focus

Copy Paste



```
msk-donskaya-vmshutenko-sw-2>enable
msk-donskaya-vmshutenko-sw-2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-vmshutenko-sw-2(config)#interface vlan2
msk-donskaya-vmshutenko-sw-2(config-if)#ip address 10.128.1.3 255.255.255.0
msk-donskaya-vmshutenko-sw-2(config-if)#exit
msk-donskaya-vmshutenko-sw-2(config)#ip default-gateway 10.128.1.1
msk-donskaya-vmshutenko-sw-2(config)#line vty 0 4
msk-donskaya-vmshutenko-sw-2(config-line)#password cisco
msk-donskaya-vmshutenko-sw-2(config-line)#login
msk-donskaya-vmshutenko-sw-2(config-line)#exit
msk-donskaya-vmshutenko-sw-2(config)#line console 0
msk-donskaya-vmshutenko-sw-2(config-line)#password cisco
msk-donskaya-vmshutenko-sw-2(config-line)#login
msk-donskaya-vmshutenko-sw-2(config-line)#exit
msk-donskaya-vmshutenko-sw-2(config)#enable secret cisco
msk-donskaya-vmshutenko-sw-2(config)#service password-encryption
msk-donskaya-vmshutenko-sw-2(config)#username admin privilege 1 secret cisco
msk-donskaya-vmshutenko-sw-2(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-vmshutenko-sw-2(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-vmshutenko-sw-2.donsokaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 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-vmshutenko-sw-2(config)#line vty 0 4
*Mar 1 1:34:9.264: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-vmshutenko-sw-2(config-line)#transport input ssh
msk-donskaya-vmshutenko-sw-2(config-line)#exit
msk-donskaya-vmshutenko-sw-2(config)#exit
msk-donskaya-vmshutenko-sw-2#
%SYS-5-CONFIG_I: Configured from console by console
write memory
Building configuration...
[OK]
msk-donskaya-vmshutenko-sw-2#
```

Настройка коммутаторов

Options View Tools Extensions Window Help A C6.5 марта 21:1

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

msk-donskaya-vmshutenko-sw-3>enable
msk-donskaya-vmshutenko-sw-3#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-vmshutenko-sw-3(config)#interface vlan2
msk-donskaya-vmshutenko-sw-3(config-if)#no shutdown
msk-donskaya-vmshutenko-sw-3(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-vmshutenko-sw-3(config-if)#exit
msk-donskaya-vmshutenko-sw-3(config)#ip default-gateway 10.128.1.1
msk-donskaya-vmshutenko-sw-3(config)#line vty 0 4
msk-donskaya-vmshutenko-sw-3(config-line)#password cisco
msk-donskaya-vmshutenko-sw-3(config-line)#login
msk-donskaya-vmshutenko-sw-3(config-line)#exit
msk-donskaya-vmshutenko-sw-3(config)#line console 0
msk-donskaya-vmshutenko-sw-3(config-line)#password cisco
msk-donskaya-vmshutenko-sw-3(config-line)#login
msk-donskaya-vmshutenko-sw-3(config-line)#exit
msk-donskaya-vmshutenko-sw-3(config)#enable secret cisco
msk-donskaya-vmshutenko-sw-3(config)#service password-encryption
msk-donskaya-vmshutenko-sw-3(config)#username admin privilege 1 secret cisco
msk-donskaya-vmshutenko-sw-3(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-vmshutenko-sw-3(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-vmshutenko-sw-3.donskeya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 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-vmshutenko-sw-3(config)#line vty 0 4
*Mar 1 1:45:50.647: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-vmshutenko-sw-3(config-line)#transport input ssh
msk-donskaya-vmshutenko-sw-3(config-line)#exit
msk-donskaya-vmshutenko-sw-3(config)#exit
msk-donskaya-vmshutenko-sw-3#
$SYS-5-CONFIG_I: Configured from console by console
write memory
Building configuration...
[OK]
msk-donskaya-vmshutenko-sw-3#
```

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

Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-vmshutenko-sw-1
msk-donskaya-vmshutenko-sw-1(config)#interface vlan2
msk-donskaya-vmshutenko-sw-1(config-if)#no shutdown
msk-donskaya-vmshutenko-sw-1(config-if)#ip address 10.128.1.5 255.255.255.0
msk-donskaya-vmshutenko-sw-1(config-if)#exit
msk-donskaya-vmshutenko-sw-1(config)#ip default-gateway 10.128.1.1
msk-donskaya-vmshutenko-sw-1(config)#line vty 0 4
msk-donskaya-vmshutenko-sw-1(config-line)#password cisco
msk-donskaya-vmshutenko-sw-1(config-line)#login
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#line console 0
msk-donskaya-vmshutenko-sw-1(config-line)#password cisco
msk-donskaya-vmshutenko-sw-1(config-line)#login
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#enable secret cisco
msk-donskaya-vmshutenko-sw-1(config)#service password-encryption
msk-donskaya-vmshutenko-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-vmshutenko-sw-1(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-vmshutenko-sw-1(config)#crypto key generate rsa
^
% Invalid input detected at '^' marker.

msk-donskaya-vmshutenko-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-vmshutenko-sw-1.donskeya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 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-vmshutenko-sw-1(config)#line vty 0 4
*Mar 1 3:55:15.354: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-vmshutenko-sw-1(config-line)#transport input ssh
msk-donskaya-vmshutenko-sw-1(config-line)#exit
msk-donskaya-vmshutenko-sw-1(config)#exit
msk-donskaya-vmshutenko-sw-1#
$SYS-5-CONFIG_I: Configured from console by console
write memory
Building configuration...
[OK]
msk-donskaya-vmshutenko-sw-1#
```

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

msk-pavlovskaya-vmshutenko-sw-1>interface vlan2
^
% Invalid input detected at '^' marker.

msk-pavlovskaya-vmshutenko-sw-1>enable
msk-pavlovskaya-vmshutenko-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-pavlovskaya-vmshutenko-sw-1(config)#interface vlan2
msk-pavlovskaya-vmshutenko-sw-1(config-if)#no shutdown
msk-pavlovskaya-vmshutenko-sw-1(config-if)#ip address 10.128.1.6 255.255.255.0
msk-pavlovskaya-vmshutenko-sw-1(config-if)#exit
msk-pavlovskaya-vmshutenko-sw-1(config)#ip default-gateway 10.128.1.1
msk-pavlovskaya-vmshutenko-sw-1(config)#line vty 0 4
msk-pavlovskaya-vmshutenko-sw-1(config-line)#password cisco
msk-pavlovskaya-vmshutenko-sw-1(config-line)#login
msk-pavlovskaya-vmshutenko-sw-1(config-line)#exit
msk-pavlovskaya-vmshutenko-sw-1(config)#line console 0
msk-pavlovskaya-vmshutenko-sw-1(config-line)#password cisco
msk-pavlovskaya-vmshutenko-sw-1(config-line)#login
msk-pavlovskaya-vmshutenko-sw-1(config-line)#exit
msk-pavlovskaya-vmshutenko-sw-1(config)#enable secret cisco
msk-pavlovskaya-vmshutenko-sw-1(config)#service password-encryption
msk-pavlovskaya-vmshutenko-sw-1(config)#username admin privilege 1 secret cisco
msk-pavlovskaya-vmshutenko-sw-1(config)#ip domain-name donskeya.rudn.edu
msk-pavlovskaya-vmshutenko-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-pavlovskaya-vmshutenko-sw-1.donskeya.rudn.edu
Choose the size of the key modulus in the range of 360 to 2048 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-vmshutenko-sw-1(config)#line vty 0 4
*Mar 1 4:11:8.222: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-pavlovskaya-vmshutenko-sw-1(config-line)#transport input ssh
msk-pavlovskaya-vmshutenko-sw-1(config-line)#exit
msk-pavlovskaya-vmshutenko-sw-1(config)#exit
msk-pavlovskaya-vmshutenko-sw-1#
$SYS-5-CONFIG_I: Configured from console by console
write memory
Building configuration...
[OK]
msk-pavlovskaya-vmshutenko-sw-1#
```

Итоги выполнения работы

1. Настроили 5 коммутаторов.
2. Построили сеть.

ИТОГИ

- Я провела подготовительную работу по первоначальной настройке коммутаторов сети.