

# Защита по лабораторной работе №4

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## Информация

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Провести подготовительную работу по первоначальной настройке коммутаторов сети.

# Строим сеть .

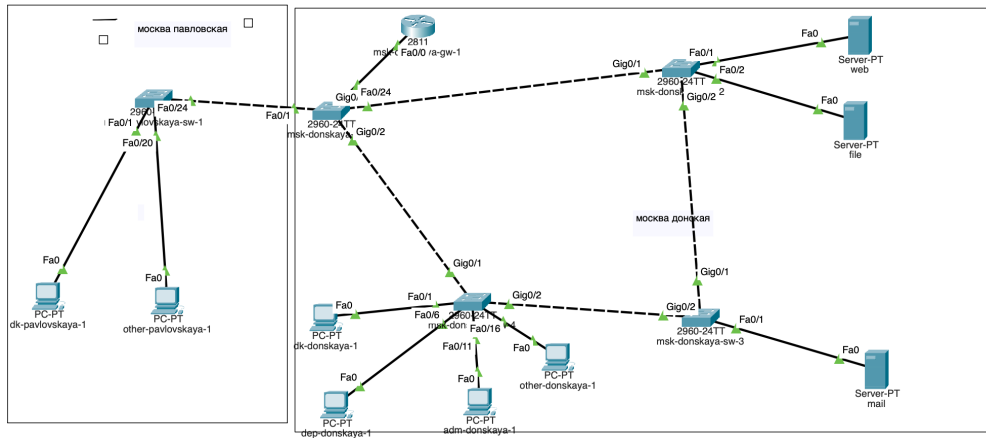
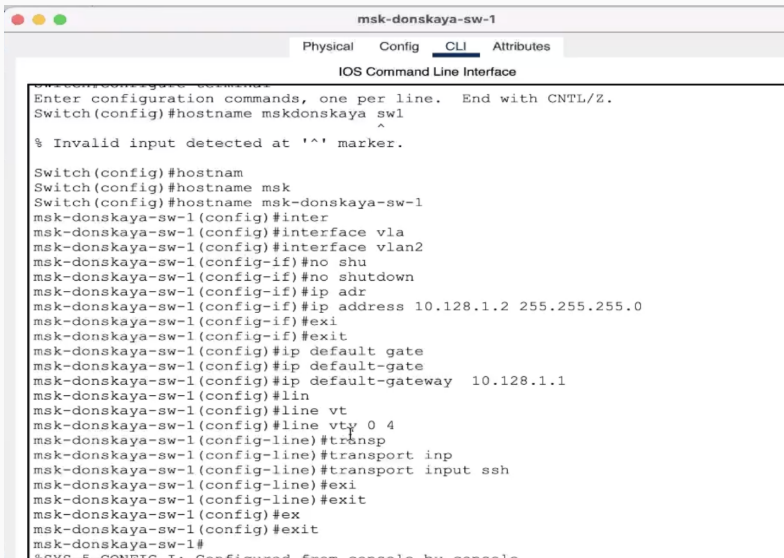


Рис. 1: согласно схеме сети L1

Настраиваем все коммутаторы, изменяя название устройства в соответствии с соглашением об именовании .



The screenshot shows a web-based configuration interface for a network switch named 'msk-donskaya-sw-1'. The interface has tabs for 'Physical', 'Config', 'CLI', and 'Attributes', with 'CLI' currently selected. Below the tabs is the 'IOS Command Line Interface' section, which contains a text area for entering configuration commands. The commands entered are as follows:

```
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname mskdonskaya sw1
^
% Invalid input detected at '^' marker.

Switch(config)#hostnam
Switch(config)#hostname msk
Switch(config)#hostname msk-donskaya-sw-1
msk-donskaya-sw-1(config)#inter
msk-donskaya-sw-1(config)#interface vla
msk-donskaya-sw-1(config)#interface vlan2
msk-donskaya-sw-1(config-if)#no shu
msk-donskaya-sw-1(config-if)#no shutdown
msk-donskaya-sw-1(config-if)#ip adr
msk-donskaya-sw-1(config-if)#ip address 10.128.1.2 255.255.255.0
msk-donskaya-sw-1(config-if)#exi
msk-donskaya-sw-1(config-if)#exit
msk-donskaya-sw-1(config)#ip default gate
msk-donskaya-sw-1(config)#ip default-gate
msk-donskaya-sw-1(config)#ip default-gateway 10.128.1.1
msk-donskaya-sw-1(config)#lin
msk-donskaya-sw-1(config)#line vt
msk-donskaya-sw-1(config)#line vty 0 4
msk-donskaya-sw-1(config-line)#transp
msk-donskaya-sw-1(config-line)#transport inp
msk-donskaya-sw-1(config-line)#transport input ssh
msk-donskaya-sw-1(config-line)#exi
msk-donskaya-sw-1(config-line)#exit
msk-donskaya-sw-1(config)#ex
msk-donskaya-sw-1(config)#exit
msk-donskaya-sw-1#
#CSC 5.3 CONFIG 1: Configured from console by console
```

### IOS Command Line Interface

```
Switch(config)#  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#host  
Switch(config)#hostname msk-donskaya-sw-2  
msk-donskaya-sw-2(config)#int  
msk-donskaya-sw-2(config)#interface vla  
msk-donskaya-sw-2(config)#interface vlan2  
msk-donskaya-sw-2(config-if)#no sh  
msk-donskaya-sw-2(config-if)#no shutdown  
msk-donskaya-sw-2(config-if)#ip adre  
msk-donskaya-sw-2(config-if)#ip add  
msk-donskaya-sw-2(config-if)#ip address 10.128.1.3 255.255.255.0  
msk-donskaya-sw-2(config-if)#exi  
msk-donskaya-sw-2(config-if)#exit  
msk-donskaya-sw-2(config)#ip def  
msk-donskaya-sw-2(config)#ip default-gateway 10.128.1.1  
msk-donskaya-sw-2(config)#line v  
msk-donskaya-sw-2(config)#line vty 0 4  
msk-donskaya-sw-2(config-line)#pass  
msk-donskaya-sw-2(config-line)#password cisco  
msk-donskaya-sw-2(config-line)#log  
msk-donskaya-sw-2(config-line)#login  
msk-donskaya-sw-2(config-line)#exit  
msk-donskaya-sw-2(config)#in  
msk-donskaya-sw-2(config)#lin  
msk-donskaya-sw-2(config)#line con  
msk-donskaya-sw-2(config)#line console 0  
msk-donskaya-sw-2(config-line)#pass  
msk-donskaya-sw-2(config-line)#password cisco  
msk-donskaya-sw-2(config-line)#login  
msk-donskaya-sw-2(config-line)#exit  
msk-donskaya-sw-2(config)#enable secret cisco  
msk-donskaya-sw-2(config)#service passwor  
msk-donskaya-sw-2(config)#service password-encryption  
msk-donskaya-sw-2(config)#user  
msk-donskaya-sw-2(config)#username l
```

## Продолжение конфигурации .

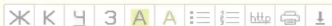
```
msk-donskaya-sw-2(config)#service password-encryption
msk-donskaya-sw-2(config)#user
msk-donskaya-sw-2(config)#username admin
msk-donskaya-sw-2(config)#username admin pr
msk-donskaya-sw-2(config)#username admin privilege 1 sec
msk-donskaya-sw-2(config)#username admin privilege 1 secret cisco
msk-donskaya-sw-2(config)#ip domain
msk-donskaya-sw-2(config)#ip domain
msk-donskaya-sw-2(config)#ip domain-n
msk-donskaya-sw-2(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-sw-2(config)#crypto gen
msk-donskaya-sw-2(config)#crypto gene
msk-donskaya-sw-2(config)#crypto key genera
msk-donskaya-sw-2(config)#crypto key generate rs
msk-donskaya-sw-2(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-sw-2.donskaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for y
  General Purpose Keys. Choosing a key modulus greater than 512 may
  a few minutes.

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

msk-donskaya-sw-2(config)#lin
*Mar 1 0:36:0.560: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-sw-2(config)#line v
msk-donskaya-sw-2(config)#line vty 0 4
msk-donskaya-sw-2(config-line)#tr
msk-donskaya-sw-2(config-line)#transport inp
msk-donskaya-sw-2(config-line)#transport input ssh
msk-donskaya-sw-2(config-line)#transport input ss
msk-donskaya-sw-2(config-line)#transport input ssh
msk-donskaya-sw-2(config-line)#exit
msk-donskaya-sw-2(config-line)#exit
msk-donskaya-sw-2(config)#
```

В целях экономии времени переписываем все команды на блокнот и для каждого коммутатора просто вставляем нужное имя и адрес .

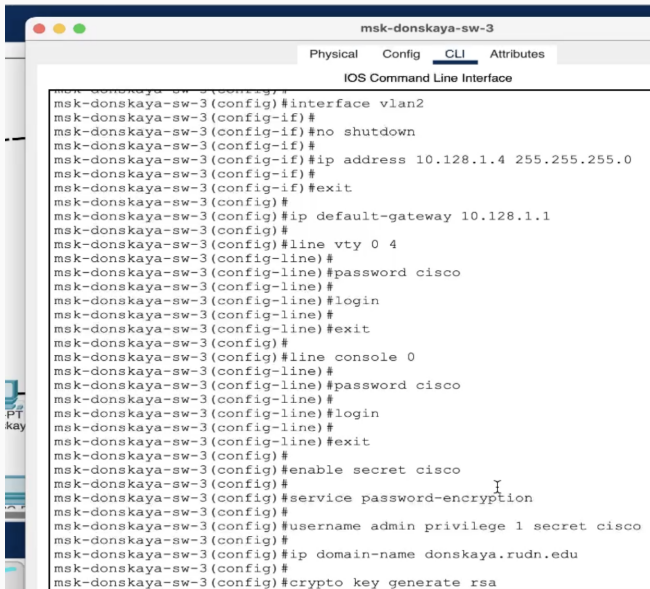
### Онлайн блокнот



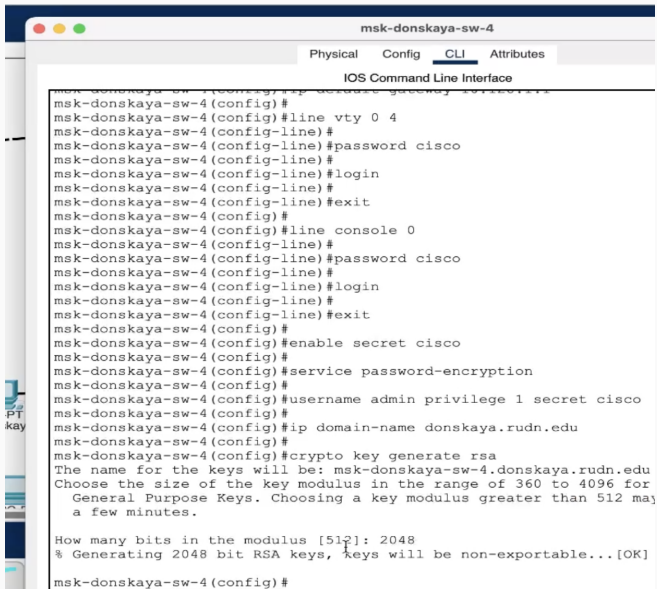
```
enable
configure terminal
hostname msk-donskaya-sw-3
interface vlan2
no shutdown
ip address 10.128.1.4 255.255.255.0
exit
ip default-gateway 10.128.1.1
line vty 0 4
password cisco
login
exit
line console 0
password cisco
login
exit
enable secret cisco
service password-encryption
username admin privilege 1 secret cisco
ip domain-name donsкаya.rudn.edu
crypto key generate rsa I

line vty 0 4
transport input ssh
exit
exit
write memory
```





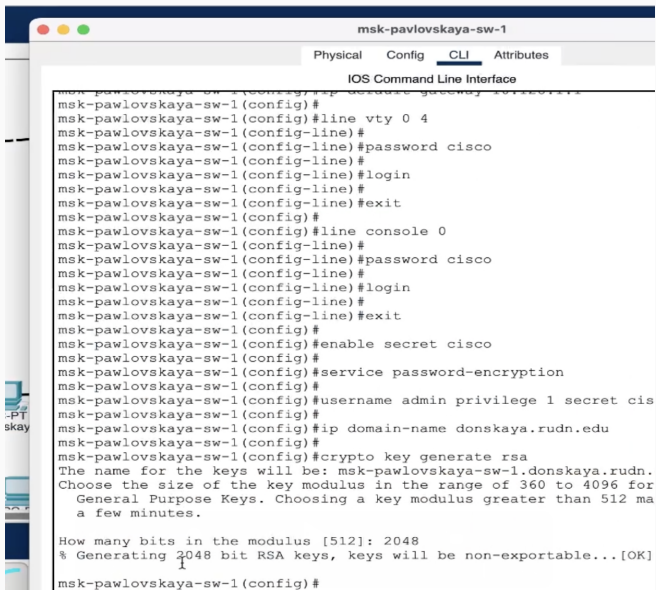
```
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#interface vlan2
msk-donskaya-sw-3(config-if)#
msk-donskaya-sw-3(config-if)#no shutdown
msk-donskaya-sw-3(config-if)#
msk-donskaya-sw-3(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-sw-3(config-if)#
msk-donskaya-sw-3(config-if)#exit
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#ip default-gateway 10.128.1.1
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#line vty 0 4
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#password cisco
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#login
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#exit
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#line console 0
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#password cisco
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#login
msk-donskaya-sw-3(config-line)#
msk-donskaya-sw-3(config-line)#exit
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#enable secret cisco
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#service password-encryption
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#username admin privilege 1 secret cisco
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#ip domain-name donsкаya.rudn.edu
msk-donskaya-sw-3(config)#
msk-donskaya-sw-3(config)#crypto key generate rsa
```



```
msk-donskaya-sw-4(config)#ip address gateway 10.12.0.1
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#line vty 0 4
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#password cisco
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#login
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#exit
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#line console 0
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#password cisco
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#login
msk-donskaya-sw-4(config-line)#
msk-donskaya-sw-4(config-line)#exit
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#enable secret cisco
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#service password-encryption
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#username admin privilege 1 secret cisco
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#ip domain-name donsкаya.rudn.edu
msk-donskaya-sw-4(config)#
msk-donskaya-sw-4(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-sw-4.donskaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for
General Purpose Keys. Choosing a key modulus greater than 512 may
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]
msk-donskaya-sw-4(config)#
```

Для второго .



```
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#line vty 0 4
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#password cisco
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#login
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#exit
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#line console 0
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#password cisco
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#login
msk-pawlovskaya-sw-1 (config-line)#
msk-pawlovskaya-sw-1 (config-line)#exit
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#enable secret cisco
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#service password-encryption
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#username admin privilege 1 secret cis
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#ip domain-name donskaya.rudn.edu
msk-pawlovskaya-sw-1 (config)#
msk-pawlovskaya-sw-1 (config)#crypto key generate rsa
The name for the keys will be: msk-pawlovskaya-sw-1.donskaya.rudn.
Choose the size of the key modulus in the range of 360 to 4096 for
General Purpose Keys. Choosing a key modulus greater than 512 ma
a few minutes.

How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]
msk-pawlovskaya-sw-1 (config)#
```

Спасибо за внимание.