

РОССИЙСКИЙ УНИВЕРСИТЕТ ДРУЖБЫ НАРОДОВ

Факультет физико-математических и естественных наук
Кафедра прикладной информатики и теории вероятностей

ОТЧЕТ **ПО ЛАБОРАТОРНОЙ РАБОТЕ № 4**

Первоначальное конфигурирование сети

дисциплина: Администрирование локальных сетей

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Группа: НПИбд 02-20

Студенческий билет: 1032205204

МОСКВА

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Цель работы:

Провести подготовительную работу по первоначальной настройке коммутаторов сети.

Выполнение работы:

1. В логической рабочей области Packet Tracer разместите коммутаторы и оконечные устройства согласно схеме сети L1 и соедините их через соответствующие интерфейсы.

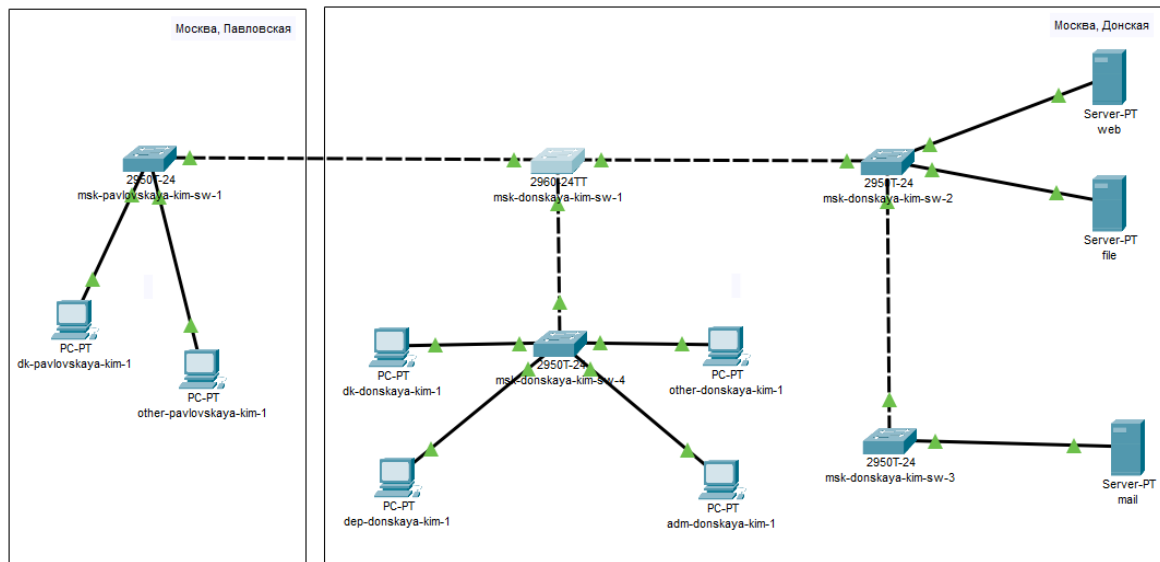


Рис. 1 Размещение коммутаторов и оконечных устройств согласно сети L1

2. Используя типовую конфигурацию коммутатора, настройте все коммутаторы, изменяя название устройства и его IP-адрес согласно плану IP.

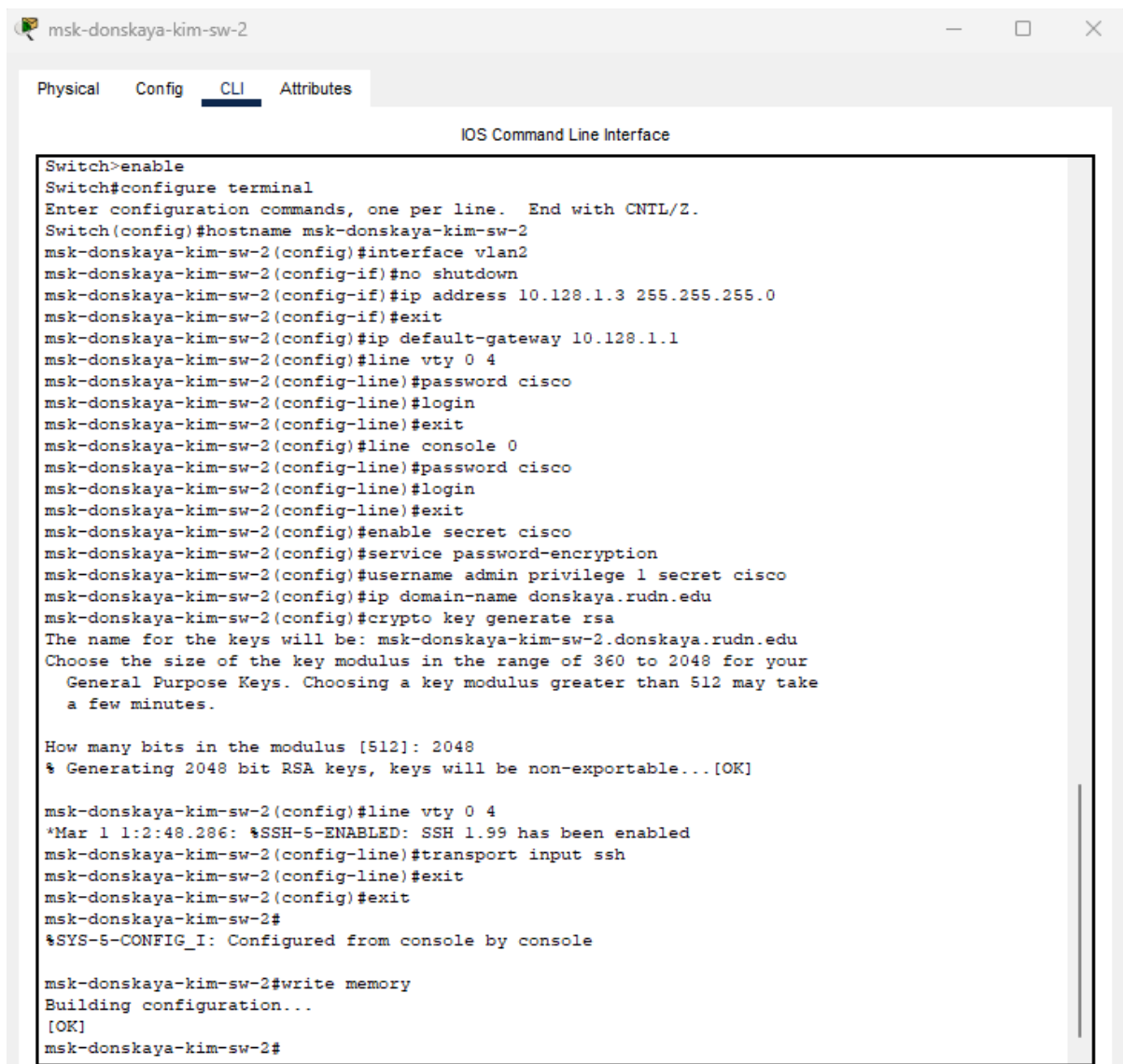
```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-kim-sw-1
msk-donskaya-kim-sw-1(config)#interface vlan2
msk-donskaya-kim-sw-1(config-if)#no shutdown
msk-donskaya-kim-sw-1(config-if)#ip address 10.128.1.2 255.255.255.0
msk-donskaya-kim-sw-1(config-if)#exit
msk-donskaya-kim-sw-1(config)#ip default-gateway 10.128.1.1
msk-donskaya-kim-sw-1(config)#line vty 0 4
msk-donskaya-kim-sw-1(config-line)#password cisco
msk-donskaya-kim-sw-1(config-line)#login
msk-donskaya-kim-sw-1(config-line)#exit
msk-donskaya-kim-sw-1(config)#line console 0
msk-donskaya-kim-sw-1(config-line)#password cisco
msk-donskaya-kim-sw-1(config-line)#login
msk-donskaya-kim-sw-1(config-line)#exit
msk-donskaya-kim-sw-1(config)#enable secret cisco
msk-donskaya-kim-sw-1(config)#service password-encryption
msk-donskaya-kim-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-kim-sw-1(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-kim-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-kim-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-kim-sw-1(config)#line vty 0 4
^Mar 1 0:37:44.658: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-kim-sw-1(config-line)#transport input ssh
msk-donskaya-kim-sw-1(config-line)#exit
msk-donskaya-kim-sw-1(config)#exit
msk-donskaya-kim-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 2 msk-donskaya-kim-sw-1



```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-kim-sw-2
msk-donskaya-kim-sw-2(config)#interface vlan2
msk-donskaya-kim-sw-2(config-if)#no shutdown
msk-donskaya-kim-sw-2(config-if)#ip address 10.128.1.3 255.255.255.0
msk-donskaya-kim-sw-2(config-if)#exit
msk-donskaya-kim-sw-2(config)#ip default-gateway 10.128.1.1
msk-donskaya-kim-sw-2(config)#line vty 0 4
msk-donskaya-kim-sw-2(config-line)#password cisco
msk-donskaya-kim-sw-2(config-line)#login
msk-donskaya-kim-sw-2(config-line)#exit
msk-donskaya-kim-sw-2(config)#line console 0
msk-donskaya-kim-sw-2(config-line)#password cisco
msk-donskaya-kim-sw-2(config-line)#login
msk-donskaya-kim-sw-2(config-line)#exit
msk-donskaya-kim-sw-2(config)#enable secret cisco
msk-donskaya-kim-sw-2(config)#service password-encryption
msk-donskaya-kim-sw-2(config)#username admin privilege 1 secret cisco
msk-donskaya-kim-sw-2(config)#ip domain-name donskeya.rudn.edu
msk-donskaya-kim-sw-2(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-kim-sw-2.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-kim-sw-2(config)#line vty 0 4
*Mar 1 1:24:08.286: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-kim-sw-2(config-line)#transport input ssh
msk-donskaya-kim-sw-2(config-line)#exit
msk-donskaya-kim-sw-2(config)#exit
msk-donskaya-kim-sw-2#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 3 msk-donskaya-kim-sw-2

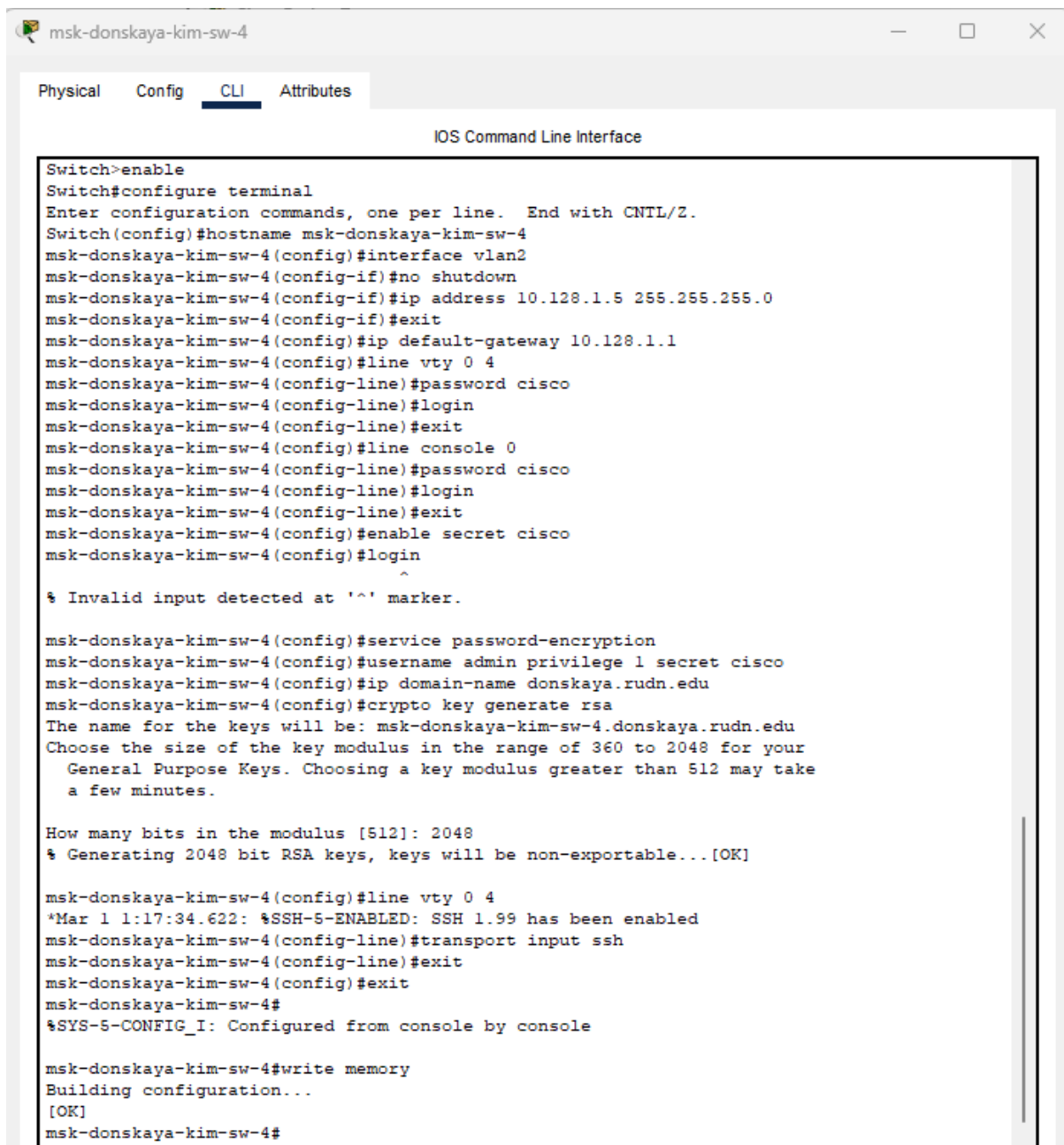
```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-kim-sw-3
msk-donskaya-kim-sw-3(config)#interface vlan2
msk-donskaya-kim-sw-3(config-if)#no shutdown
msk-donskaya-kim-sw-3(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-kim-sw-3(config-if)#exit
msk-donskaya-kim-sw-3(config)#ip default-gateway 10.128.1.1
msk-donskaya-kim-sw-3(config)#line vty 0 4
msk-donskaya-kim-sw-3(config-line)#password cisco
msk-donskaya-kim-sw-3(config-line)#login
msk-donskaya-kim-sw-3(config-line)#exit
msk-donskaya-kim-sw-3(config)#line console 0
msk-donskaya-kim-sw-3(config-line)#password cisco
msk-donskaya-kim-sw-3(config-line)#login
msk-donskaya-kim-sw-3(config-line)#exit
msk-donskaya-kim-sw-3(config)#enable secret cisco
msk-donskaya-kim-sw-3(config)#service password-encryption
msk-donskaya-kim-sw-3(config)#username admin privilege 1 secret cisco
msk-donskaya-kim-sw-3(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-kim-sw-3(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-kim-sw-3.donskaya.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-kim-sw-3(config)#line vty 0 4
*Mar 1 1:12:12.559: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-kim-sw-3(config-line)#transport input ssh
msk-donskaya-kim-sw-3(config-line)#exit
msk-donskaya-kim-sw-3(config)#exit
msk-donskaya-kim-sw-3#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-kim-sw-3#write memory
Building configuration...
[OK]
msk-donskaya-kim-sw-3#
```

Рис. 4 msk-donskaya-kim-sw-3



```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-donskaya-kim-sw-4
msk-donskaya-kim-sw-4(config)#interface vlan2
msk-donskaya-kim-sw-4(config-if)#no shutdown
msk-donskaya-kim-sw-4(config-if)#ip address 10.128.1.5 255.255.255.0
msk-donskaya-kim-sw-4(config-if)#exit
msk-donskaya-kim-sw-4(config)#ip default-gateway 10.128.1.1
msk-donskaya-kim-sw-4(config)#line vty 0 4
msk-donskaya-kim-sw-4(config-line)#password cisco
msk-donskaya-kim-sw-4(config-line)#login
msk-donskaya-kim-sw-4(config-line)#exit
msk-donskaya-kim-sw-4(config)#line console 0
msk-donskaya-kim-sw-4(config-line)#password cisco
msk-donskaya-kim-sw-4(config-line)#login
msk-donskaya-kim-sw-4(config-line)#exit
msk-donskaya-kim-sw-4(config)#enable secret cisco
msk-donskaya-kim-sw-4(config)#login
^
% Invalid input detected at '^' marker.

msk-donskaya-kim-sw-4(config)#service password-encryption
msk-donskaya-kim-sw-4(config)#username admin privilege 1 secret cisco
msk-donskaya-kim-sw-4(config)#ip domain-name donsokaya.rudn.edu
msk-donskaya-kim-sw-4(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-kim-sw-4.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-kim-sw-4(config)#line vty 0 4
*Mar 1 1:17:34.622: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-kim-sw-4(config-line)#transport input ssh
msk-donskaya-kim-sw-4(config-line)#exit
msk-donskaya-kim-sw-4(config)#exit
msk-donskaya-kim-sw-4#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-kim-sw-4#write memory
Building configuration...
[OK]
msk-donskaya-kim-sw-4#
```

Рис. 5 msk-donskaya-kim-sw-4

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname msk-pavlovskaya-kim-sw-1
msk-pavlovskaya-kim-sw-1(config)#interface vlan2
msk-pavlovskaya-kim-sw-1(config-if)#no shutdown
msk-pavlovskaya-kim-sw-1(config-if)#ip address 10.128.1.6 255.255.255.0
msk-pavlovskaya-kim-sw-1(config-if)#exit
msk-pavlovskaya-kim-sw-1(config)#ip default-gateway 10.128.1.1
msk-pavlovskaya-kim-sw-1(config)#line vty 0 4
msk-pavlovskaya-kim-sw-1(config-line)#password cisco
msk-pavlovskaya-kim-sw-1(config-line)#login
msk-pavlovskaya-kim-sw-1(config-line)#exit
msk-pavlovskaya-kim-sw-1(config)#line console 0
msk-pavlovskaya-kim-sw-1(config-line)#password cisco
msk-pavlovskaya-kim-sw-1(config-line)#login
msk-pavlovskaya-kim-sw-1(config-line)#exit
msk-pavlovskaya-kim-sw-1(config)#enable secret cisco
msk-pavlovskaya-kim-sw-1(config)#service password-encryption
msk-pavlovskaya-kim-sw-1(config)#username admin privilege 1 secret cisco
msk-pavlovskaya-kim-sw-1(config)#ip domain-name donskaya.rudn.edu
msk-pavlovskaya-kim-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-pavlovskaya-kim-sw-1.donskaya.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-kim-sw-1(config)#line vty 0 4
*Mar 1 1:30:17.352: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-pavlovskaya-kim-sw-1(config-line)#transport input ssh
msk-pavlovskaya-kim-sw-1(config-line)#exit
msk-pavlovskaya-kim-sw-1(config)#exit
msk-pavlovskaya-kim-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 6 msk-pavlovskaya-kim-sw-1

Контрольные вопросы

1. При помощи каких команд можно посмотреть конфигурацию сетевого оборудования?

show running-config

2. При помощи каких команд можно посмотреть стартовый конфигурационный файл оборудования?

show startup-config

3. При помощи каких команд можно экспортировать конфигурационный файл оборудования?

copy running-config startup-config/copy running-config flash:

4. При помощи каких команд можно импортировать конфигурационный файл оборудования?

`copy startup-config running-config`

Вывод:

Я провела подготовительную работу по первоначальной настройке коммутаторов сети.