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

МОСКВА

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ЦЕЛЬ РАБОТЫ

Провести подготовительную работу по первоначальной настройке коммутаторов сети.

ХОД РАБОТЫ

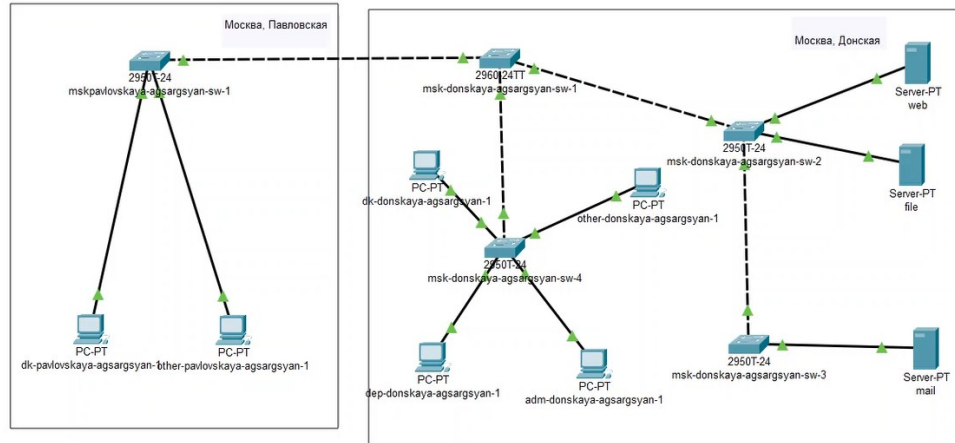1. Реализовал на Cisco Packet Tracer топологию согласно нашей задаче (Рис. 1).

Рис. 1

2. Поочередно настроил все коммутаторы (Рис. 2-6).

```
                          IOS Command Line Interface
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname msk-donskaya-agsargsyan-sw-1
msk-donskaya-agsargsyan-sw-1(config)#interface vlan2
msk-donskaya-agsargsyan-sw-1(config-if)#no shutdown
msk-donskaya-agsargsyan-sw-1(config-if)#ip address 10.128.1.2 255.255.255.0
msk-donskaya-agsargsyan-sw-1(config-if)#exit
msk-donskaya-agsargsyan-sw-1(config)#
msk-donskaya-agsargsyan-sw-1(config)#ip default-gateway 10.128.1.1
msk-donskaya-agsargsyan-sw-1(config)#
msk-donskaya-agsargsyan-sw-1(config)#line vty 0 4
msk-donskaya-agsargsyan-sw-1(config-line)#password cisco
msk-donskaya-agsargsyan-sw-1(config-line)#login
msk-donskaya-agsargsyan-sw-1(config-line)#exit
msk-donskaya-agsargsyan-sw-1(config)#line console 0
msk-donskaya-agsargsyan-sw-1(config-line)#password cisco
msk-donskaya-agsargsyan-sw-1(config-line)#login
msk-donskaya-agsargsyan-sw-1(config-line)#exit
msk-donskaya-agsargsyan-sw-1(config)#enable secret cisco
msk-donskaya-agsargsyan-sw-1(config)#service password-encryption
msk-donskaya-agsargsyan-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-agsargsyan-sw-1(config)#ip domain-name donskaya.rudn.edu
msk-donskaya-agsargsyan-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-agsargsyan-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]: 7768
% A decimal number between 360 and 2048
How many bits in the modulus [512]: 768
% Generating 768 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-agsargsyan-sw-1(config)#line vty 0 4
*Mar 1 0:21:14.157: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-agsargsyan-sw-1(config-line)#transport input ssh
msk-donskaya-agsargsyan-sw-1(config-line)#
msk-donskaya-agsargsyan-sw-1(config-line)#exit
msk-donskaya-agsargsyan-sw-1(config)#exit
msk-donskaya-agsargsyan-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 2

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname msk-donskaya-agsargsyan-sw-2
msk-donskaya-agsargsyan-sw-2(config)#interface vlan2
msk-donskaya-agsargsyan-sw-2(config-if)#no shutdown
msk-donskaya-agsargsyan-sw-2(config-if)#ip address 10.128.1.3 255.255.255.0
msk-donskaya-agsargsyan-sw-2(config-if)#exit
msk-donskaya-agsargsyan-sw-2(config)#
msk-donskaya-agsargsyan-sw-2(config)#ip default-gateway 10.128.1.1
msk-donskaya-agsargsyan-sw-2(config)#
msk-donskaya-agsargsyan-sw-2(config)#line vty 0 4
msk-donskaya-agsargsyan-sw-2(config-line)#password cisco
msk-donskaya-agsargsyan-sw-2(config-line)#login
msk-donskaya-agsargsyan-sw-2(config-line)#exit
msk-donskaya-agsargsyan-sw-2(config)#line console 0
msk-donskaya-agsargsyan-sw-2(config-line)#password cisco
msk-donskaya-agsargsyan-sw-2(config-line)#login
msk-donskaya-agsargsyan-sw-2(config-line)#exit
msk-donskaya-agsargsyan-sw-2(config)#enable secret cisco
msk-donskaya-agsargsyan-sw-2(config)#service password-encryption
msk-donskaya-agsargsyan-sw-2(config)#username admin privilege 1 secret cisco
msk-donskaya-agsargsyan-sw-2(config)#ip domain-name donskaya.rudn.edu
msk-donskaya-agsargsyan-sw-2(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-agsargsyan-sw-2.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]: 768
% Generating 768 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-agsargsyan-sw-2(config)#line vty 0 4
*Mar 1 0:23:14.537: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-agsargsyan-sw-2(config-line)#transport input ssh
msk-donskaya-agsargsyan-sw-2(config-line)#exit
msk-donskaya-agsargsyan-sw-2(config)#exit
msk-donskaya-agsargsyan-sw-2#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 3

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname msk-donskaya-agsargsyan-3
msk-donskaya-agsargsyan-3(config)#interface vlan2
msk-donskaya-agsargsyan-3(config-if)#no shutdown
msk-donskaya-agsargsyan-3(config-if)#ip address 10.128.1.4 255.255.255.0
msk-donskaya-agsargsyan-3(config-if)#exit
msk-donskaya-agsargsyan-3(config)#ip default-gateway 10.128.1.1
msk-donskaya-agsargsyan-3(config)#
msk-donskaya-agsargsyan-3(config)#line vty 0 4
msk-donskaya-agsargsyan-3(config-line)#password cisco
msk-donskaya-agsargsyan-3(config-line)#login
msk-donskaya-agsargsyan-3(config-line)#exit
msk-donskaya-agsargsyan-3(config)#
msk-donskaya-agsargsyan-3(config)#line console 0
msk-donskaya-agsargsyan-3(config-line)#password cisco
msk-donskaya-agsargsyan-3(config-line)#login
msk-donskaya-agsargsyan-3(config-line)#wxit
                                       ^
% Invalid input detected at '^' marker.

msk-donskaya-agsargsyan-3(config-line)#exit
msk-donskaya-agsargsyan-3(config)#enable secret cisco
msk-donskaya-agsargsyan-3(config)#service password-encryption
msk-donskaya-agsargsyan-3(config)#username admin privilege 1 secret cisco
msk-donskaya-agsargsyan-3(config)#
msk-donskaya-agsargsyan-3(config)#ip domain-name donskaya.rudn.edu
msk-donskaya-agsargsyan-3(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-agsargsyan-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]: 768
% Generating 768 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-agsargsyan-3(config)#line vty 0 4
*Mar 1 0:28:48.398: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-agsargsyan-3(config-line)#transport input ssh
msk-donskaya-agsargsyan-3(config-line)#
msk-donskaya-agsargsyan-3(config-line)#exit
msk-donskaya-agsargsyan-3(config)#exit
msk-donskaya-agsargsyan-3#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-agsargsyan-3#write memory
Building configuration...
[OK]
msk-donskaya-agsargsyan-3#|
```

Рис. 4

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname msk-donskaya-agsargsyan-sw-4
msk-donskaya-agsargsyan-sw-4(config)#interface vlan2
msk-donskaya-agsargsyan-sw-4(config-if)#no shutdown
msk-donskaya-agsargsyan-sw-4(config-if)#ip address 10.128.1.5 255.255.255.0
msk-donskaya-agsargsyan-sw-4(config-if)#exit
msk-donskaya-agsargsyan-sw-4(config)#ip default-gateway 10.128.1.1
msk-donskaya-agsargsyan-sw-4(config)#
msk-donskaya-agsargsyan-sw-4(config)#line vty 0 4
msk-donskaya-agsargsyan-sw-4(config-line)#password cisco
msk-donskaya-agsargsyan-sw-4(config-line)#login
msk-donskaya-agsargsyan-sw-4(config-line)#exit
msk-donskaya-agsargsyan-sw-4(config)#enable secret cisco
msk-donskaya-agsargsyan-sw-4(config)#service password-encryption
msk-donskaya-agsargsyan-sw-4(config)#username admin privilege 1 secret cisco
msk-donskaya-agsargsyan-sw-4(config)#
msk-donskaya-agsargsyan-sw-4(config)#ip domain-name donskaya.rudn.edu
msk-donskaya-agsargsyan-sw-4(config)#crypto key generate rsa
The name for the keys will be: msk-donskaya-agsargsyan-sw-4.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]: 768
% Generating 768 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-agsargsyan-sw-4(config)#line vty 0 4
*Mar 1 0:33:42.223: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-agsargsyan-sw-4(config-line)#transport input ssh
msk-donskaya-agsargsyan-sw-4(config-line)#exit
msk-donskaya-agsargsyan-sw-4(config)#exit
msk-donskaya-agsargsyan-sw-4#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 5

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname msk-pavlovskaya-agsargsyan-sw-1
msk-pavlovskaya-agsargsyan-sw-1(config)#interface vlan2
msk-pavlovskaya-agsargsyan-sw-1(config-if)#no shutdown
msk-pavlovskaya-agsargsyan-sw-1(config-if)#ip address 10.128.1.6 255.255.255.0
msk-pavlovskaya-agsargsyan-sw-1(config-if)#ip default-gateway 10.128.1.1
msk-pavlovskaya-agsargsyan-sw-1(config)#
msk-pavlovskaya-agsargsyan-sw-1(config)#line vty 0 4
msk-pavlovskaya-agsargsyan-sw-1(config-line)#password cisco
msk-pavlovskaya-agsargsyan-sw-1(config-line)#login
msk-pavlovskaya-agsargsyan-sw-1(config-line)#exit
msk-pavlovskaya-agsargsyan-sw-1(config)#
msk-pavlovskaya-agsargsyan-sw-1(config)#line console 0
msk-pavlovskaya-agsargsyan-sw-1(config-line)#password cisco
msk-pavlovskaya-agsargsyan-sw-1(config-line)#login
msk-pavlovskaya-agsargsyan-sw-1(config-line)#exit
msk-pavlovskaya-agsargsyan-sw-1(config)#enable secret cisco
msk-pavlovskaya-agsargsyan-sw-1(config)#service password-encryption
msk-pavlovskaya-agsargsyan-sw-1(config)#username admin privilege 1 secret cisco
msk-pavlovskaya-agsargsyan-sw-1(config)#ip domain-name pavlovskaya.rudn.edu
msk-pavlovskaya-agsargsyan-sw-1(config)#crypto key generate rsa
The name for the keys will be: msk-pavlovskaya-agsargsyan-sw-1.pavlovskaya.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]: 768
% Generating 768 bit RSA keys, keys will be non-exportable...[OK]

msk-pavlovskaya-agsargsyan-sw-1(config)#line vty 0 4
*Mar 1 0:45:37.633: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-pavlovskaya-agsargsyan-sw-1(config-line)#transport input ssh
msk-pavlovskaya-agsargsyan-sw-1(config-line)#exit
msk-pavlovskaya-agsargsyan-sw-1(config)#exit
msk-pavlovskaya-agsargsyan-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

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

Рис. 6

ОТВЕТЫ НА 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 провел подготовительную работу по первоначальной настройке коммутаторов сети.