

Администрирование локальных сетей

Лабораторная работа 8

Скандарова П.Ю.

ИНФОРМАЦИЯ

Докладчик

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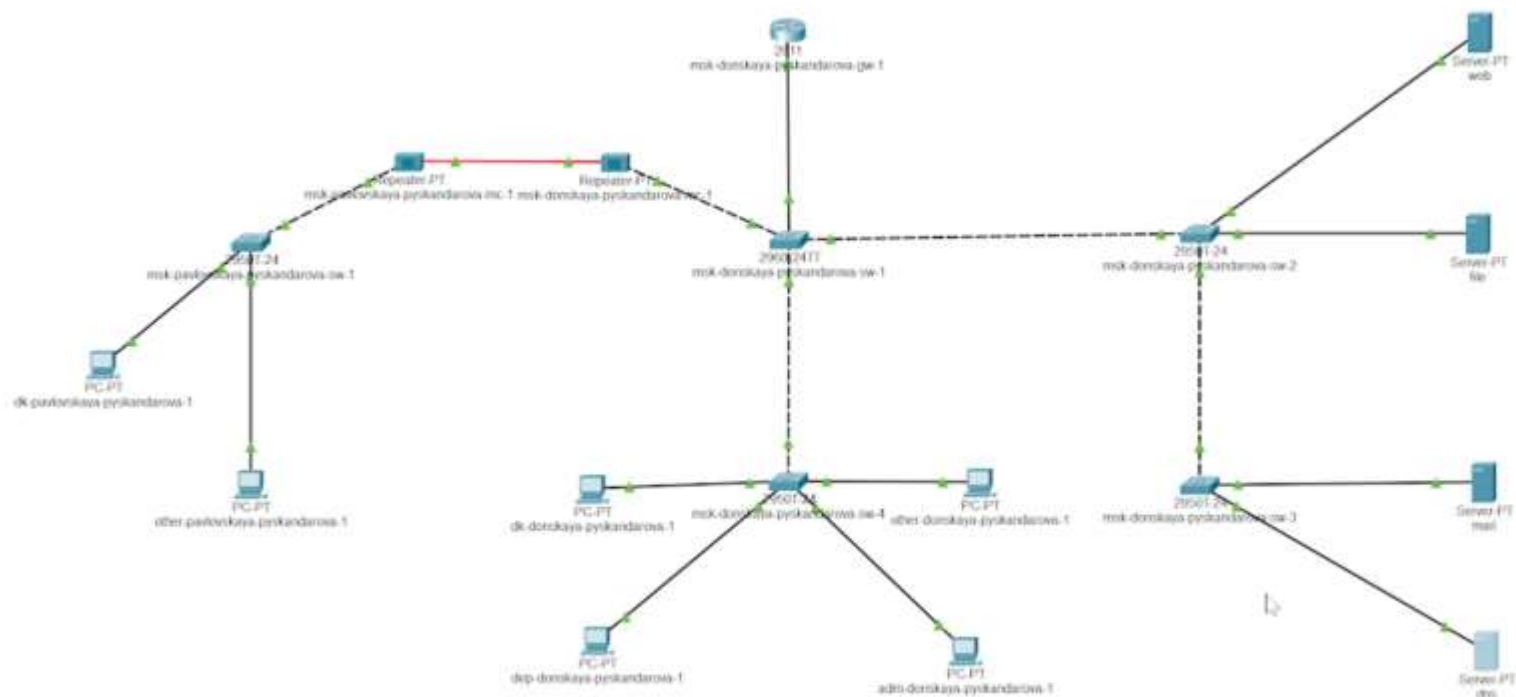
ВВОДНАЯ ЧАСТЬ

Цель

Приобретение практических навыков по настройке динамического распределения IP-адресов посредством протокола DHCP (Dynamic Host Configuration Protocol) 5 в локальной сети.

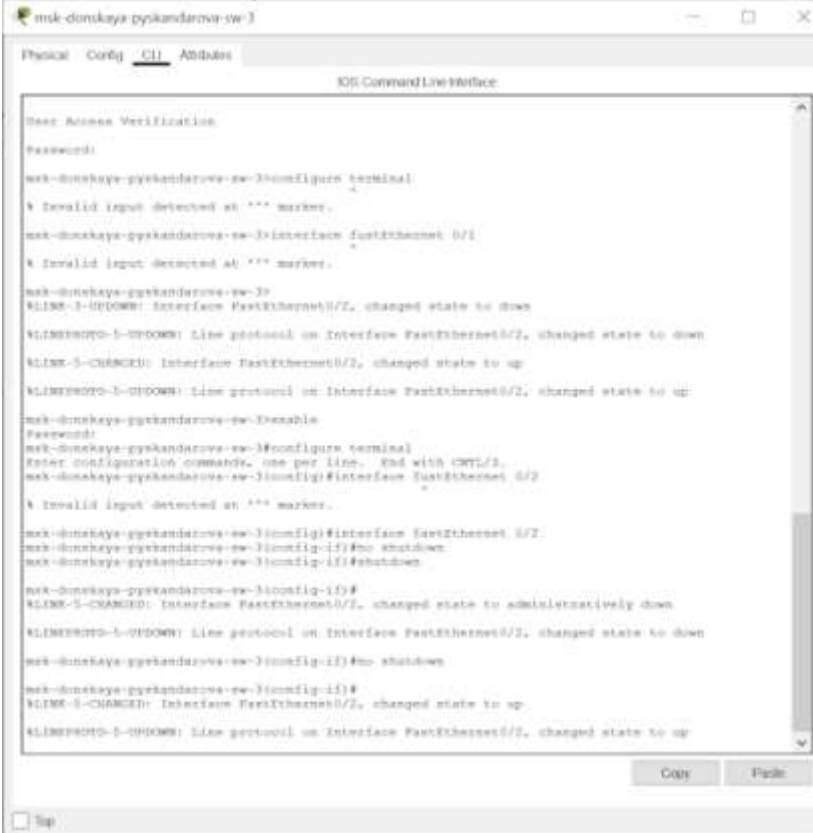
ВЫПОЛНЕНИЕ ЛАБОРАТОРНОЙ РАБОТЫ

1



Логическая схема локальной сети с добавленным DNS-сервером

2



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

Dear Admins Verification
Password:
msk-donskaya-pyskandarova-sw-3#configure terminal
% Invalid input detected at '^' marker.
msk-donskaya-pyskandarova-sw-3#interface FastEthernet 0/2
% Invalid input detected at '^' marker.

msk-donskaya-pyskandarova-sw-3#
%LINK-3-UPDOWN: Interface FastEthernet0/2, changed state to down
%LINKSPEED-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINKSPEED-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

msk-donskaya-pyskandarova-sw-3#enable
Password:
msk-donskaya-pyskandarova-sw-3#configure terminal
Enter configuration commands, one per line. End with CTRL/Z.
msk-donskaya-pyskandarova-sw-3(config)#interface FastEthernet 0/2
% Invalid input detected at '^' marker.

msk-donskaya-pyskandarova-sw-3(config)#interface FastEthernet 0/2
msk-donskaya-pyskandarova-sw-3(config-if)#no shutdown
msk-donskaya-pyskandarova-sw-3(config-if)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to administratively down
%LINKSPEED-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down

msk-donskaya-pyskandarova-sw-3(config-if)#no shutdown
msk-donskaya-pyskandarova-sw-3(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINKSPEED-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
```

Активация порта

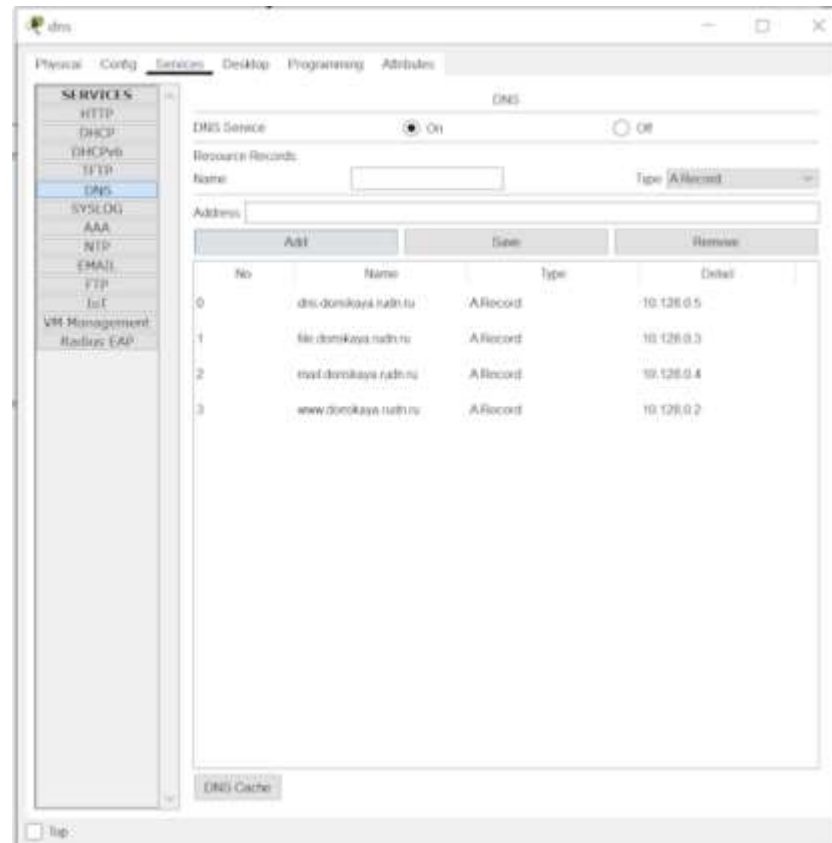
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The screenshot shows the 'Config' tab of a network configuration window titled 'dns'. The left sidebar has a tree view with 'GLOBAL' (containing 'Settings' and 'Algorithm Settings') and 'INTERFACE' (containing 'FastEthernet0', which is selected). The main area is titled 'FastEthernet0' and contains the following settings:

- Port Status:** ☒ On
- Bandwidth:** ☒ Auto
- Duplex:** ☒ Auto
- MAC Address:** 000B.BEED.EB00
- IP Configuration:**
 - ☐ DHCP
 - ☒ Static
- IPv4 Address:** 10.128.0.5
- Subnet Mask:** 255.255.255.0
- IPv6 Configuration:**
 - ☐ Automatic
 - ☒ Static
- IPv6 Address:** [Empty text box]
- Link Local Address:** FE80::20B:BEFF:FEED:EB00

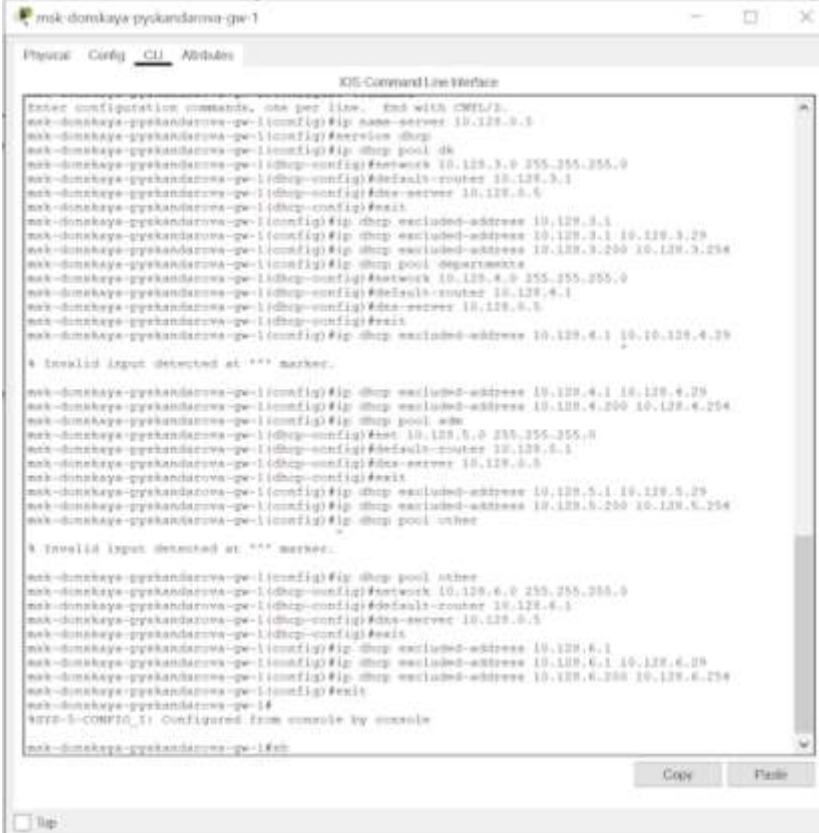
Настройка адресов

4



Окно настройки сервиса DNS

5



```
mik-dontkaya-pyskandarova-gw-1
Physical Config CLI Abstracts
XOS Command Line Interface
Enter configuration commands, one per line. End with CTRL/Z.
mik-dontkaya-pyskandarova-gw-1(config)#ip name-server 10.128.0.5
mik-dontkaya-pyskandarova-gw-1(config)#service dhcp
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp pool dh
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#network 10.128.0.0 255.255.255.0
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#default-router 10.128.0.1
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#dns-server 10.128.0.5
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#exit
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1 10.128.0.29
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.200 10.128.0.254
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp pool department
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#network 10.128.0.0 255.255.255.0
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#default-router 10.128.0.1
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#dns-server 10.128.0.5
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#exit
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1 10.128.0.29
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1 10.128.0.29
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.200 10.128.0.254
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp pool other
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#network 10.128.0.0 255.255.255.0
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#default-router 10.128.0.1
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#dns-server 10.128.0.5
mik-dontkaya-pyskandarova-gw-1(dhcp-config)#exit
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.1 10.128.0.29
mik-dontkaya-pyskandarova-gw-1(config)#ip dhcp excluded-address 10.128.0.200 10.128.0.254
mik-dontkaya-pyskandarova-gw-1(config)#exit
mik-dontkaya-pyskandarova-gw-1#
Mikrotik WinBox: Configured from console by console
mik-dontkaya-pyskandarova-gw-1#
```

Настройка DHCP-сервиса на маршрутизаторе

ВЫВОД

Выводы

Приобретены практические навыки по настройке динамического распределения IP-адресов посредством протокола DHCP (Dynamic Host Configuration Protocol) 5 в локальной сети.