

Презентация по лабораторной работе №8

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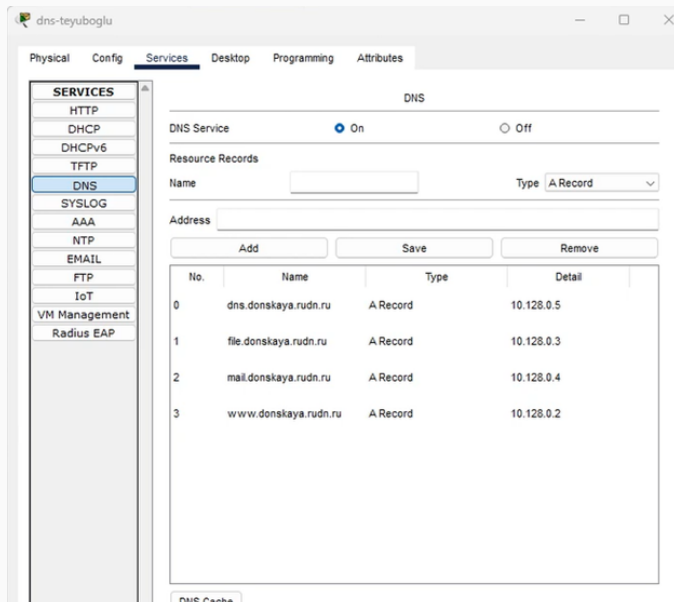
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Приобретение практических навыков по настройке динамического распределения IP-адресов посредством протокола DHCP (Dynamic Host Configuration Protocol) в локальной сети.

Выполнение лабораторной работы

Подключение DNS-сервера



The screenshot shows the Mikrotik WinBox interface for configuring DNS services. The 'Services' tab is active, and the 'DNS' service is selected in the left sidebar. The main configuration area shows the 'DNS Service' is turned 'On'. Below this, there is a section for 'Resource Records' with a table of existing A Records.

DNS Configuration:

- DNS Service: ☒ On ☐ Off

Resource Records:

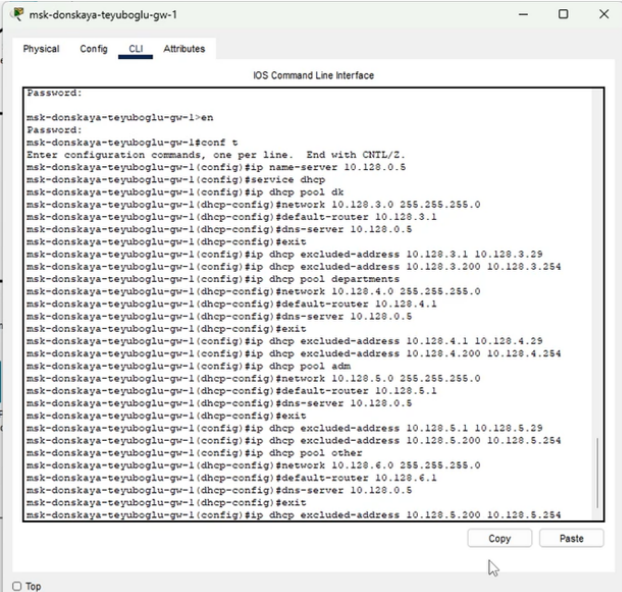
Name: Type:

Address:

Buttons: Add, Save, Remove

No.	Name	Type	Detail
0	dns.donskaya.rudn.ru	A Record	10.128.0.5
1	file.donskaya.rudn.ru	A Record	10.128.0.3
2	mail.donskaya.rudn.ru	A Record	10.128.0.4
3	www.donskaya.rudn.ru	A Record	10.128.0.2

DNS Cache



The screenshot shows a web-based configuration interface for a network device named 'msk-donskaya-teyuboglu-gw-1'. The 'CLI' tab is selected, displaying the 'IOS Command Line Interface'. The configuration is as follows:

```
msk-donskaya-teyuboglu-gw-1>en
msk-donskaya-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-teyuboglu-gw-1(config)#ip name-server 10.128.0.5
msk-donskaya-teyuboglu-gw-1(config)#service dhcp
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp pool dk
msk-donskaya-teyuboglu-gw-1(dhcp-config)#network 10.128.3.0 255.255.255.0
msk-donskaya-teyuboglu-gw-1(dhcp-config)#default-router 10.128.3.1
msk-donskaya-teyuboglu-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-teyuboglu-gw-1(dhcp-config)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.3.1 10.128.3.29
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.3.200 10.128.3.254
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp pool departments
msk-donskaya-teyuboglu-gw-1(dhcp-config)#network 10.128.4.0 255.255.255.0
msk-donskaya-teyuboglu-gw-1(dhcp-config)#default-router 10.128.4.1
msk-donskaya-teyuboglu-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-teyuboglu-gw-1(dhcp-config)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.4.1 10.128.4.29
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.4.200 10.128.4.254
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp pool adm
msk-donskaya-teyuboglu-gw-1(dhcp-config)#network 10.128.5.0 255.255.255.0
msk-donskaya-teyuboglu-gw-1(dhcp-config)#default-router 10.128.5.1
msk-donskaya-teyuboglu-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-teyuboglu-gw-1(dhcp-config)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.5.1 10.128.5.29
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.5.200 10.128.5.254
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp pool other
msk-donskaya-teyuboglu-gw-1(dhcp-config)#network 10.128.6.0 255.255.255.0
msk-donskaya-teyuboglu-gw-1(dhcp-config)#default-router 10.128.6.1
msk-donskaya-teyuboglu-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-teyuboglu-gw-1(dhcp-config)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip dhcp excluded-address 10.128.6.200 10.128.6.254
```

At the bottom of the CLI window, there are 'Copy' and 'Paste' buttons. Below the window, there is a 'Top' button and a mouse cursor icon.

msk-donskaya-teyuboglu-gw-1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Building configuration...
[OK]
msk-donskaya-teyuboglu-gw-1#sh ip dhcp pool

Pool dk :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 0
Pending event                    : none

1 subnet is currently in the pool
Current index   IP address range      Leased/Excluded/Total
10.128.3.1      10.128.3.1 - 10.128.3.254    0 / 0 / 254

Pool departments :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 0
Pending event                    : none

1 subnet is currently in the pool
Current index   IP address range      Leased/Excluded/Total
10.128.4.1      10.128.4.1 - 10.128.4.254    0 / 0 / 254

Pool adm :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 0
Pending event                    : none
```

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```
msk-donskaya-teyuboglu-gw-1#sh ip dhcp binding
```

IP address	Client-ID/ Hardware address	Lease expiration	Type
10.128.3.30	0090.0CCC.6C73	--	Automatic
10.128.3.31	0001.9657.C0B0	--	Automatic
10.128.4.30	000C.8558.C2A1	--	Automatic
10.128.5.30	0060.7094.DEE3	--	Automatic
10.128.6.30	000A.41D6.C201	--	Automatic
10.128.6.31	0004.9A54.BEE9	--	Automatic

```
msk-donskaya-teyuboglu-gw-1#
```

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Рис. 4: Просмотр аренды адресов

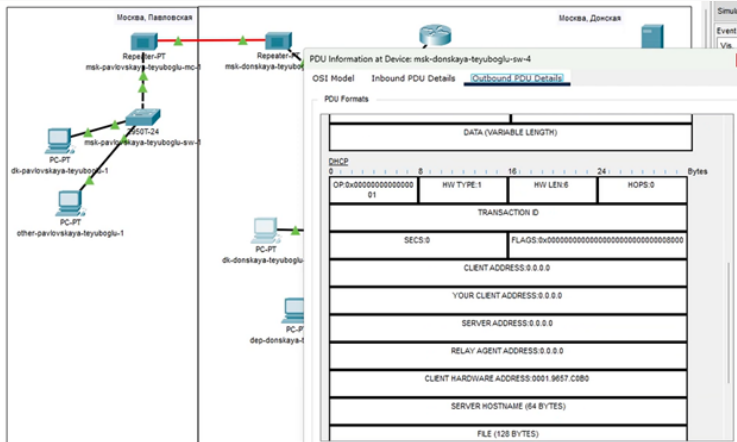


Рис. 5: Пакет DHCP в режиме симуляции

Выводы по проделанной работе

Изучили работу протокола DHCP и его настройку на маршрутизаторах Cisco.