

Лаборатория работа 8

Настройка сетевых сервисов. DNSP

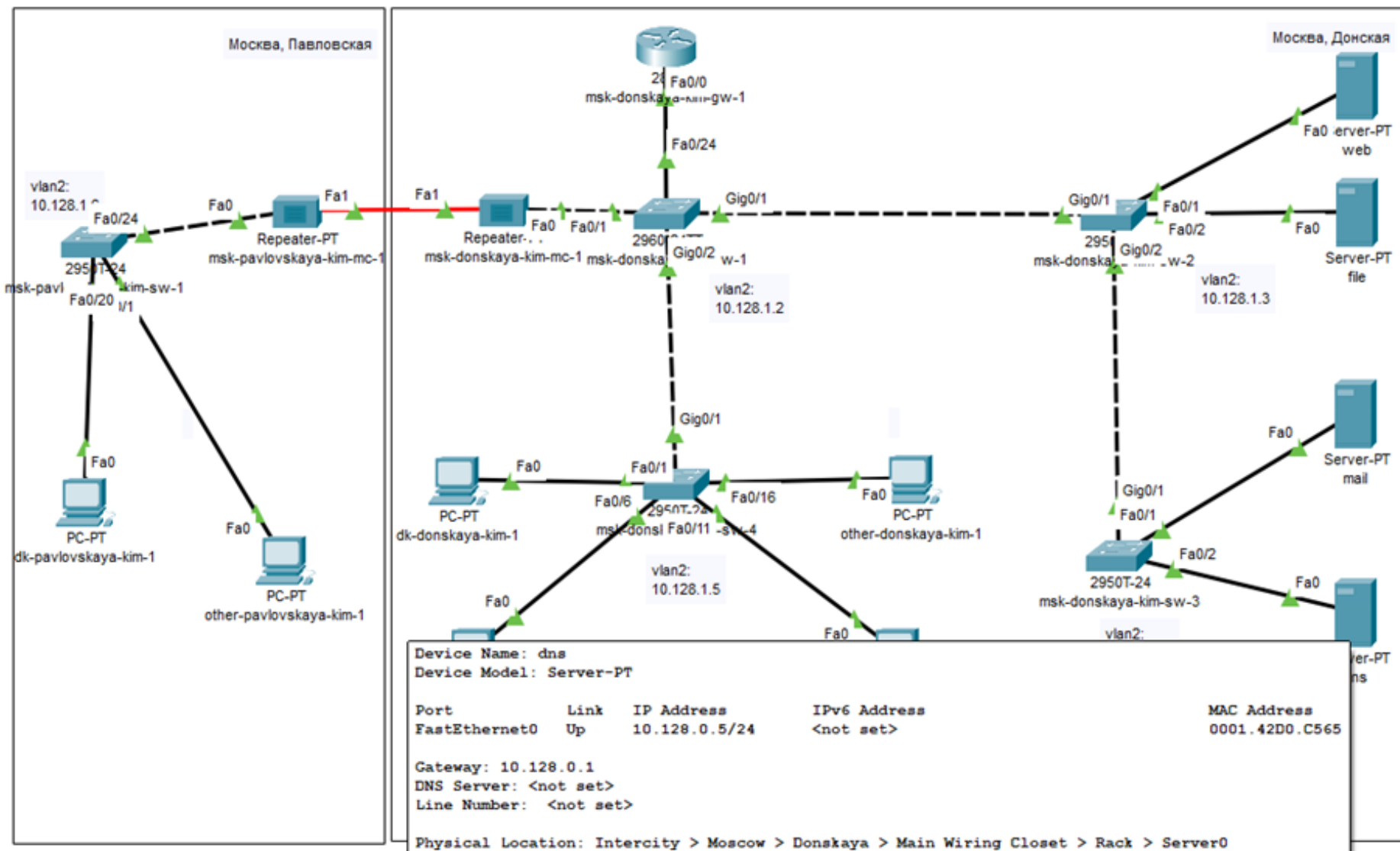
ПОДГОТОВИЛА: КИМ РЕАЧНА
ГРУППА: НПИБД-02-20

Цель работы:

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

Задание:

- Добавить DNS-записи для домена `donskaya.rudn.ru` на сервер `dns`.
- Настроить DHCP-сервис на маршрутизаторе.
- Заменить в конфигурации конечных устройствах статическое распределение адресов на динамическое



Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS**
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DNS

DNS Service ☒ On ☐ Off

Resource Records

Name Type **A Record**

Address

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

```

msk-donskaya-kim-gw-1>enable
Password:
msk-donskaya-kim-gw-1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-kim-gw-1(config)#ip name-server 10.128.0.5
msk-donskaya-kim-gw-1(config)#service dhcp
msk-donskaya-kim-gw-1(config)#ip dhcp pool dk
msk-donskaya-kim-gw-1(dhcp-config)#network 10.128.3.0 255.255.255.0
msk-donskaya-kim-gw-1(dhcp-config)#default-router 10.128.3.1
msk-donskaya-kim-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-kim-gw-1(dhcp-config)#exit
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.3.1 10.128.3.29
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.3.200 10.128.3.254
msk-donskaya-kim-gw-1(config)#ip dhcp pool departments
msk-donskaya-kim-gw-1(dhcp-config)#network 10.128.4.0 255.255.255.0
msk-donskaya-kim-gw-1(dhcp-config)#default-router 10.128.4.1
msk-donskaya-kim-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-kim-gw-1(dhcp-config)#exit
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.4.1 10.128.4.29
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.4.200 10.128.4.254
msk-donskaya-kim-gw-1(config)#ip dhcp pool adm
msk-donskaya-kim-gw-1(dhcp-config)#network 10.128.5.0 255.255.255.0
msk-donskaya-kim-gw-1(dhcp-config)#default-router 10.128.5.1
msk-donskaya-kim-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-kim-gw-1(dhcp-config)#exit
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.5.1 10.128.5.29
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.5.200 10.128.5.254
msk-donskaya-kim-gw-1(config)#ip dhcp pool other
msk-donskaya-kim-gw-1(dhcp-config)#network 10.128.6.0 255.255.255.0
msk-donskaya-kim-gw-1(dhcp-config)#default-router 10.128.6.1
msk-donskaya-kim-gw-1(dhcp-config)#dns-server 10.128.0.5
msk-donskaya-kim-gw-1(dhcp-config)#exit
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.6.1 10.128.6.29
msk-donskaya-kim-gw-1(config)#ip dhcp excluded-address 10.128.6.200 10.128.6.254
msk-donskaya-kim-gw-1(config)#

```

```

msk-donskaya-kim-gw-1#sh ip dhcp binding
IP address      Client-ID/      Lease expiration      Type
                Hardware address
msk-donskaya-kim-gw-1#

```

```
msk-donskaya-kim-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                : 8
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 / 8 / 254

```

```

Pool departments :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 8
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 / 8 / 254

```

```

Pool adm :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 8
Pending event                     : none

```

```

1 subnet is currently in the pool
Current index      IP address range      Leased/Excluded/Total
10.128.5.1         10.128.5.1      - 10.128.5.254      0 / 8 / 254

```

```

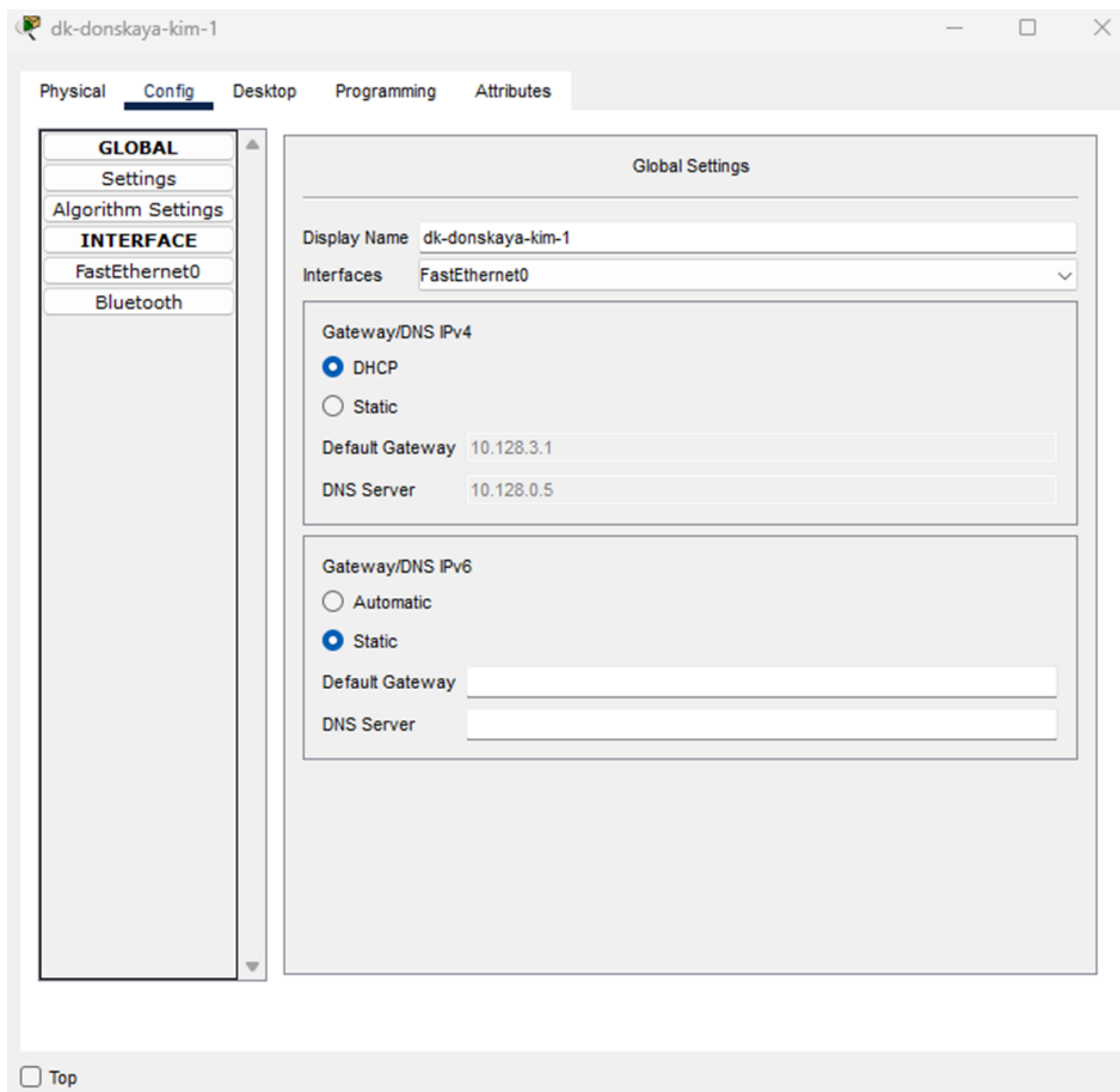
Pool other :
Utilization mark (high/low)      : 100 / 0
Subnet size (first/next)         : 0 / 0
Total addresses                   : 254
Leased addresses                  : 0
Excluded addresses                : 8
Pending event                     : none

```

```

1 subnet is currently in the pool
Current index      IP address range      Leased/Excluded/Total
10.128.6.1         10.128.6.1      - 10.128.6.254      0 / 8 / 254

```

```
C:\>ping dns.donskaya.rudn.ru
```

```
Pinging 10.128.0.5 with 32 bytes of data:
```

```
Reply from 10.128.0.5: bytes=32 time=17ms TTL=127
Reply from 10.128.0.5: bytes=32 time<1ms TTL=127
Reply from 10.128.0.5: bytes=32 time<1ms TTL=127
Reply from 10.128.0.5: bytes=32 time<1ms TTL=127
```

```
Ping statistics for 10.128.0.5:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 17ms, Average = 4ms
```

```
C:\>ping file.donskaya.rudn.ru
```

```
Pinging 10.128.0.3 with 32 bytes of data:
```

```
Reply from 10.128.0.3: bytes=32 time<1ms TTL=127
Reply from 10.128.0.3: bytes=32 time=10ms TTL=127
Reply from 10.128.0.3: bytes=32 time<1ms TTL=127
Reply from 10.128.0.3: bytes=32 time=1ms TTL=127
```

```
Ping statistics for 10.128.0.3:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

```
C:\>ping mail.donskaya.rudn.ru
```

```
Pinging 10.128.0.4 with 32 bytes of data:
```

```
Reply from 10.128.0.4: bytes=32 time<1ms TTL=127
Reply from 10.128.0.4: bytes=32 time<1ms TTL=127
Reply from 10.128.0.4: bytes=32 time<1ms TTL=127
Reply from 10.128.0.4: bytes=32 time<1ms TTL=127
```

```
Ping statistics for 10.128.0.4:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>
```

Simulation Panel

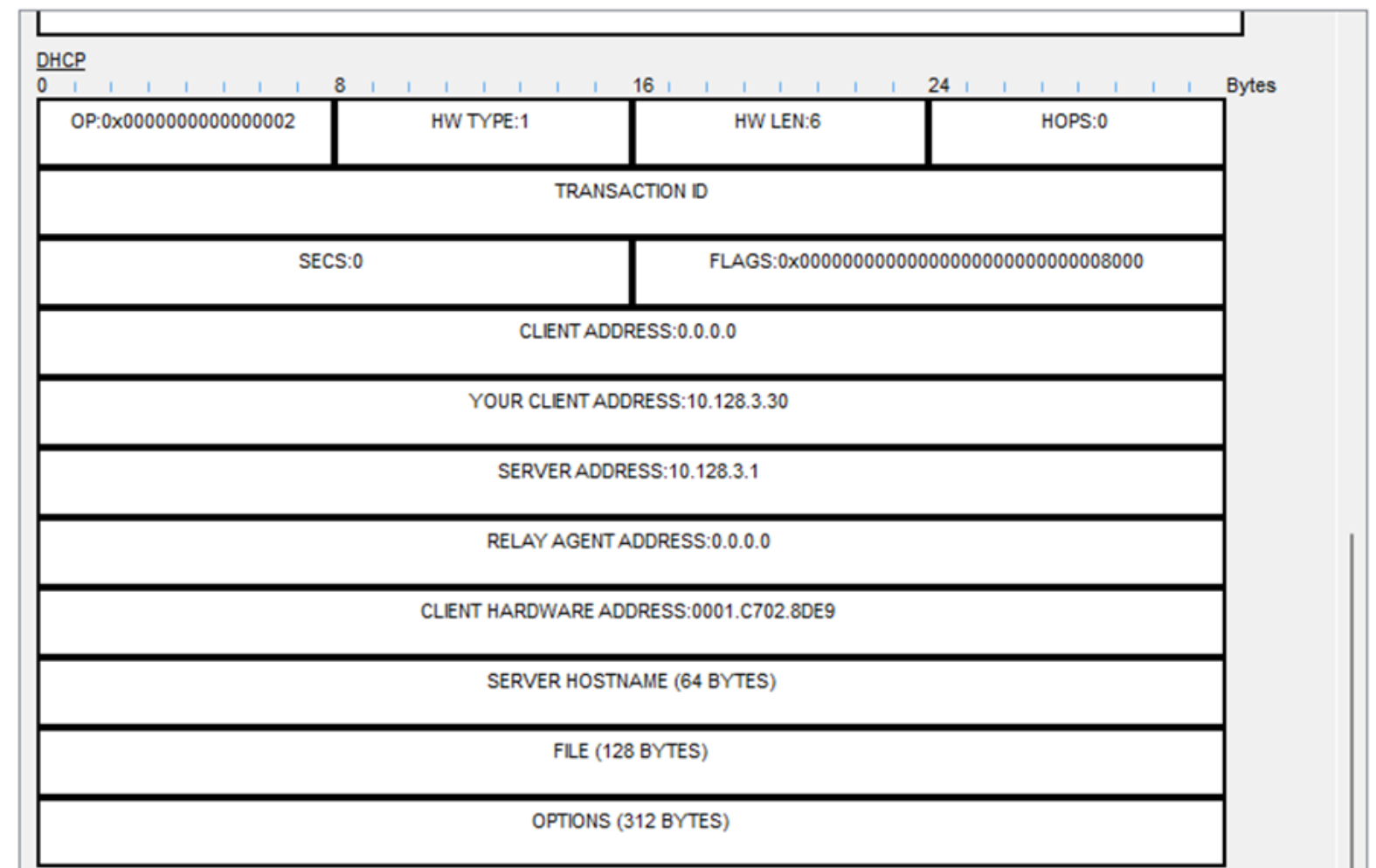
Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	dk-donskaya-kim-1	DHCP
	0.000	--	dk-donskaya-kim-1	DHCP
	0.001	--	dk-donskaya-kim-1	DHCP
	0.002	dk-donskaya-kim-1	msk-donskaya-kim-sw-4	
	0.002	--	dk-donskaya-kim-1	
	0.003	dk-donskaya-kim-1	msk-donskaya-kim-sw-4	
	0.003	msk-donskaya-kim-sw-4	msk-donskaya-kim-sw-1	
	0.004	msk-donskaya-kim-sw-4	msk-donskaya-kim-sw-1	
	0.004	msk-donskaya-kim-sw-1	msk-donskaya-kim-mc-1	
	0.004	msk-donskaya-kim-sw-1	msk-donskaya-kim-gw-1	
	0.004	msk-donskaya-kim-sw-1	msk-donskaya-kim-sw-2	
	0.005	msk-donskaya-kim-sw-1	msk-donskaya-kim-mc-1	
	0.005	msk-donskaya-kim-sw-1	msk-donskaya-kim-gw-1	
	0.005	msk-donskaya-kim-sw-1	msk-donskaya-kim-sw-2	
	0.005	msk-donskaya-kim-mc-1	msk-davlovskaya-kim-mc-1	

PDU Information at Device: dk-donskaya-kim-1

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats



Вывод

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

Спасибо за внимание!