РОССИЙСКИЙ УНИВЕРСИТЕТ ДРУЖБЫ НАРОДОВ

Факультет физико-математических и естественных наук

Кафедра прикладной информатики и теории вероятностей

ОТЧЕТ
ПО ЛАБОРАТОРНОЙ РАБОТЕ № 7

дисциплина: Сетевые технологии

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Группа: НПИбд-02-20

МОСКВА

2022 г.

Цель:

Получение навыков настройки службы DHCP на сетевом оборудовании для распределения адресов IPv4 и IPv6.

Ход работы:

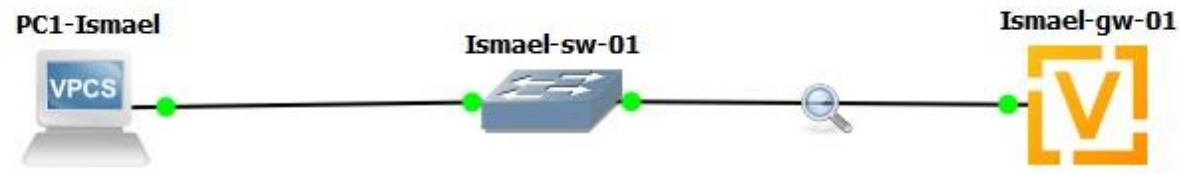
7.3.1. Настройка DHCP в случае IPv4

1. Запустите GNS3 VM и GNS3. Создайте новый проект.

2. В рабочем пространстве разместите и соедините устройства в соответствии с топологией, приведённой на рис. 7.1. Используйте маршрутизатор VyOS и хост (клиент) VPCS.

3. Измените отображаемые названия устройств. Коммутаторам присвойте названия по принципу username-sw-0x, маршрутизаторам — по принципу username-gw-0x, VPCS — по принципу PCx-username, где вместо username укажите имя вашей учётной записи, вместо x — порядковый номер устройства.

4. Включите захват трафика на соединении между коммутатором sw-01 и маршрутизатором gw-01.



5. Настройте образ VyOS (для входа в систему используйте логин vyos и пароль vyos):

– Установите систему на маршрутизаторы VyOS:

vyos@vyos:~$ install image

Далее ответьте на вопросы диалога установки. По завершении диалога перезапустите маршрутизатор, введя команду reboot.

```
VyOS is a free software distribution that includes multiple components,
you can check individual component licenses under /usr/share/doc/*/copyrig
Use of this pre-built image is governed by the EULA you can find at
/usr/share/vyos/EULA
vyos@vyos:~$ install image
Welcome to the VyOS install program. This script
will walk you through the process of installing the
VyOS image to a local hard drive.
Would you like to continue? (Yes/No) [Yes]: y
Probing drives: OK
Looking for pre-existing RAID groups...none found.
The VyOS image will require a minimum 2000MB root.
Would you like me to try to partition a drive automatically
or would you rather partition it manually with parted?  If
you have already setup your partitions, you may skip this step

Partition (Auto/Parted/Skip) [Auto]:
```

```
Setting up grub: OK
Done!
vyos@vyos:~$ reboot
Are you sure you want to reboot this system? [y/N] y

[  337.864342] systemd-shutdown[1]: Failed to parse (null): No such file or dire
ctory
[  337.875713] systemd-shutdown[1]: Failed to deactivate swaps: No such file or
directory
[  337.946218] [2289]: Failed to unmount /usr/lib/live/mount/medium: Device or r
esource busy
[  338.288244] reboot: Restarting system

                    GNU GRUB  version 2.02+dfsg1-20+deb10u4

 +----------------------------------------------------------------------------+
 | VyOS 1.3.0-epa3 linux (KVM console)                                        |
 |*VyOS 1.3.0-epa3 linux (Serial console)                                     |
 | VyOS 1.3.0-epa3 linux (USB console)                                        |
 | Lost password change 1.3.0-epa3 (KVM console)                              |
 | Lost password change 1.3.0-epa3 (Serial console)                           |
 | Lost password change 1.3.0-epa3 (USB console)                              |
 |                                                                            |
```

```
Welcome to VyOS - vyos ttyS0

vyos login: vyos
Password:
Linux vyos 5.4.156-amd64-vyos #1 SMP Thu Oct 28 18:19:14 UTC 2021 x86_64
Welcome to VyOS!

Check out project news at https://blog.vyos.io
and feel free to report bugs at https://phabricator.vyos.net

Visit https://support.vyos.io to create a support ticket.

You can change this banner using "set system login banner post-login" command.

VyOS is a free software distribution that includes multiple components,
you can check individual component licenses under /usr/share/doc/*/copyright
Use of this pre-built image is governed by the EULA you can find at
/usr/share/vyos/EULA
vyos@vyos:~$ configure
[edit]
vyos@vyos# set system host-name Ismael-gw-01
[edit]
```

```
vyos@vyos# set system host-name Ismael-gw-01
[edit]
vyos@vyos# set system domain-name Ismael.net
[edit]
vyos@vyos# set system login user Ismael
[edit]
vyos@vyos# set system login user Ismael authentication plaintext-password 123456
[edit]
vyos@vyos# commit
[edit]
vyos@vyos# save
Saving configuration to '/config/config.boot'...
Done
[edit]
vyos@vyos# exit
exit
vyos@vyos:~$ exit
logout

Welcome to VyOS - Ismael-gw-01 ttyS0

Ismael-gw-01 login: Ismael
Password:
Linux Ismael-gw-01 5.4.156-amd64-vyos #1 SMP Thu Oct 28 18:19:14 UTC 2021 x86_64
Welcome to VyOS!
```

```
Ismael@Ismael-gw-01:~$ configure
[edit]
Ismael@Ismael-gw-01# delete system login user vyos
[edit]
Ismael@Ismael-gw-01# commit
[edit]
Ismael@Ismael-gw-01# save
Saving configuration to '/config/config.boot'...
Done
[edit]
```

6. На маршрутизаторе под созданным пользователем перейдите в режим конфигурирования и настройте адресацию IPv4:

7. Добавьте конфигурацию DHCP-сервера на маршрутизаторе (вместо username укажите имя вашей учётной записи):

```
Ismael@Ismael-gw-01# set interfaces ethernet eth0 address 10.0.0.1/24
[edit]
Ismael@Ismael-gw-01# set service dhcp-server shared-network-name Ismael domain-n
ame Ismael.net
[edit]
Ismael@Ismael-gw-01# set service dhcp-server shared-network-name Ismael name-ser
ver 10.0.0.1
[edit]
Ismael@Ismael-gw-01# set service dhcp-server shared-network-name Ismael subnet 1
0.0.0.0/24 default-router 10.0.0.1
[edit]
Ismael@Ismael-gw-01# set service dhcp-server shared-network-name Ismael subnet 1
0.0.0.0/24 range hosts start 10.0.0.2
[edit]
Ismael@Ismael-gw-01# set service dhcp-server shared-network-name Ismael subnet 1
0.0.0.0/24 range hosts stop 10.0.0.253
[edit]
Ismael@Ismael-gw-01# commit
[edit]
Ismael@Ismael-gw-01# save
Saving configuration to '/config/config.boot'...
Done
[edit]
Ismael@Ismael-gw-01# exit
exit
```

8. Для просмотра статистики DHCP-сервера и выданных адресов используйте команды:

```
Ismael@Ismael-gw-01:~$  show dhcp server statistics
Pool      Size    Leases    Available  Usage
------  ------  --------  -----------  -------
Ismael     252         0          252  0%
Ismael@Ismael-gw-01:~$ show dhcp server leases
IP address    Hardware address    State    Lease start    Lease expiration    Re
maining    Pool    Hostname
------------  ------------------  -------  -------------  ------------------  --
---------  ------  ----------
```

9. Настройте оконечное устройство PC1:

```
PC1-Ismael>  ip dhcp -d
Opcode: 1 (REQUEST)
Client IP Address: 0.0.0.0
Your IP Address: 0.0.0.0
Server IP Address: 0.0.0.0
Gateway IP Address: 0.0.0.0
Client MAC Address: 00:50:79:66:68:00
Option 53: Message Type = Discover
Option 12: Host Name = PC1-Ismael
Option 61: Client Identifier = Hardware Type=Ethernet MAC Address = 00:50:79:66:
68:00

Opcode: 1 (REQUEST)
Client IP Address: 0.0.0.0
Your IP Address: 0.0.0.0
Server IP Address: 0.0.0.0
Gateway IP Address: 0.0.0.0
Client MAC Address: 00:50:79:66:68:00
Option 53: Message Type = Discover
Option 12: Host Name = PC1-Ismael
Option 61: Client Identifier = Hardware Type=Ethernet MAC Address = 00:50:79:66:
68:00

Opcode: 2 (REPLY)
Client IP Address: 0.0.0.0
Your IP Address: 10.0.0.2
Server IP Address: 0.0.0.0
Gateway IP Address: 0.0.0.0
Client MAC Address: 00:50:79:66:68:00
Option 53: Message Type = Offer
Option 54: DHCP Server = 10.0.0.1
Option 51: Lease Time = 86400
Option 1: Subnet Mask = 255.255.255.0
Option 3: Router = 10.0.0.1
Option 6: DNS Server = 10.0.0.1
Option 15: Domain = Ismael.net

Opcode: 1 (REQUEST)
Client IP Address: 10.0.0.2
Your IP Address: 0.0.0.0
Server IP Address: 0.0.0.0
Gateway IP Address: 0.0.0.0
Client MAC Address: 00:50:79:66:68:00
```

```
PC1-Ismael> save
Saving startup configuration to startup.vpc
.  done
```

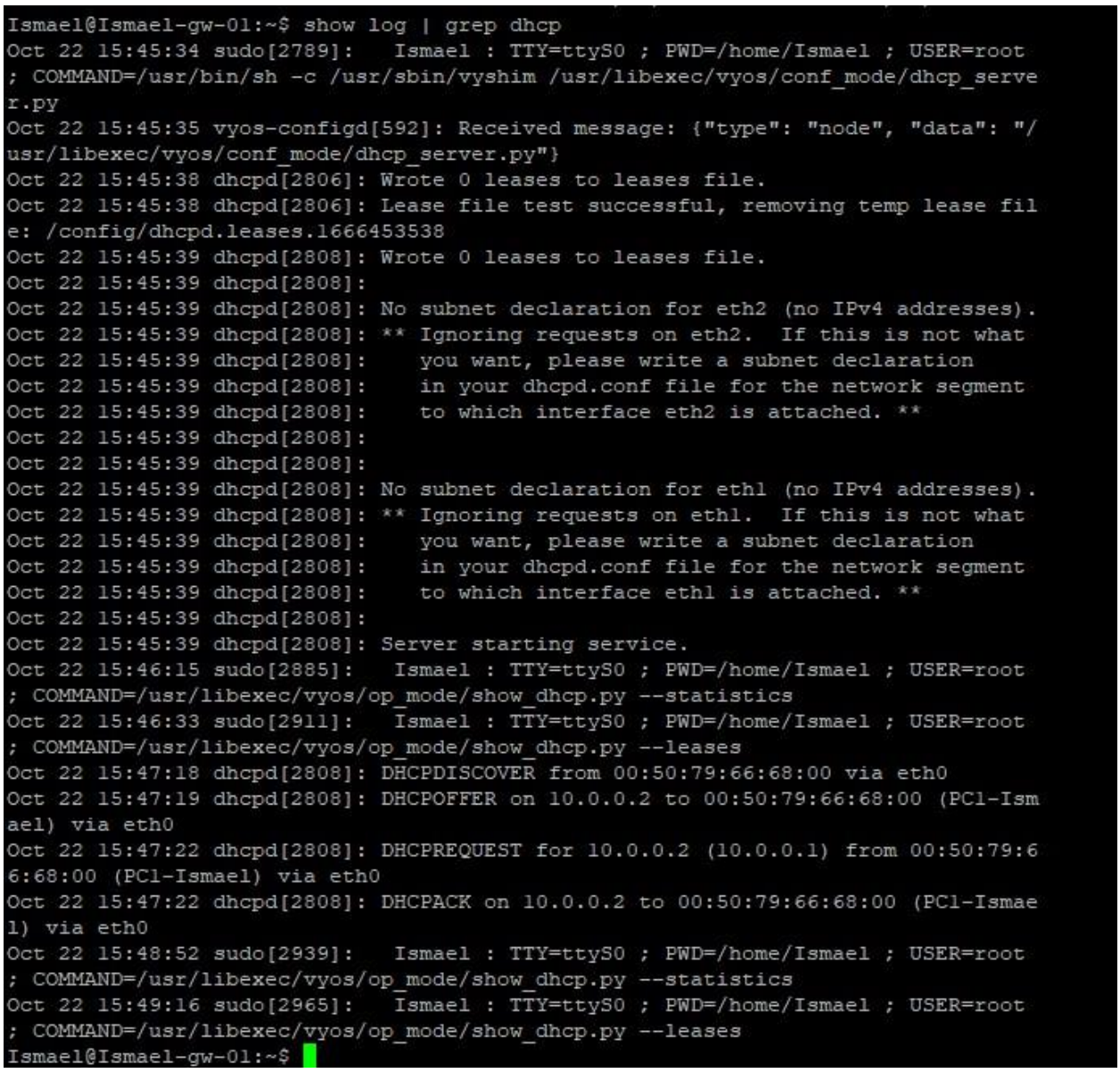
10. Проверьте конфигурацию IPv4 на узле, пропингуйте маршрутизатор:

```
PC1-Ismael> show ip

NAME        : PC1-Ismael[1]
IP/MASK     : 10.0.0.2/24
GATEWAY     : 10.0.0.1
DNS         : 10.0.0.1
DHCP SERVER : 10.0.0.1
DHCP LEASE  : 86368, 86400/43200/75600
DOMAIN NAME : Ismael.net
MAC         : 00:50:79:66:68:00
LPORT       : 20004
RHOST:PORT  : 127.0.0.1:20005
MTU         : 1500

PC1-Ismael>  ping 10.0.0.1 -c 2

84 bytes from 10.0.0.1 icmp_seq=1 ttl=64 time=0.542 ms
84 bytes from 10.0.0.1 icmp_seq=2 ttl=64 time=0.535 ms

PC1-Ismael>
```

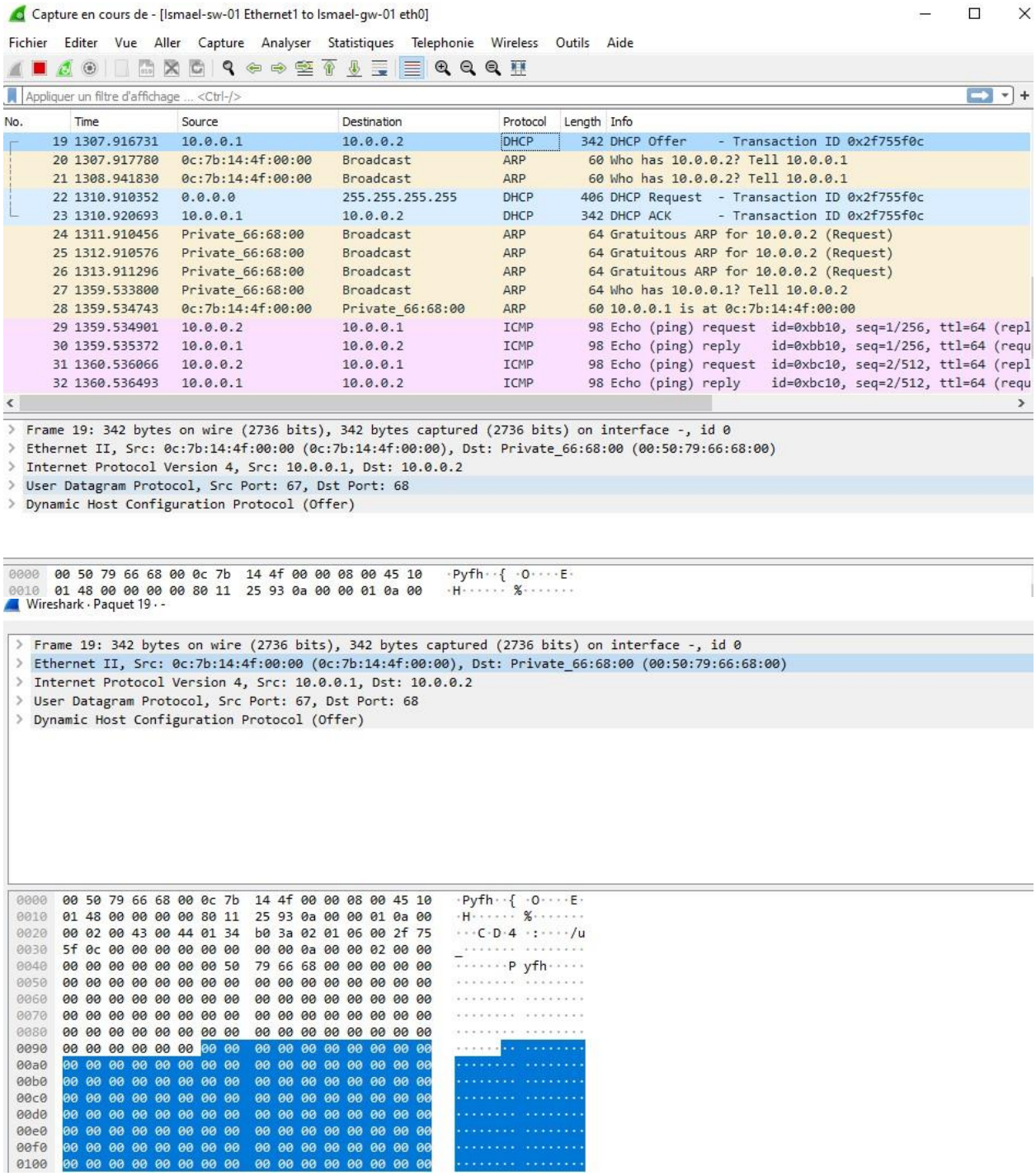
11. На маршрутизаторе вновь посмотрите статистику DHCP-сервера и выданные адреса, в отчёте поясните полученную информацию:

```
Ismael@Ismael-gw-01:~$  show dhcp server statistics
Pool      Size    Leases    Available  Usage
------  ------  --------  -----------  -------
Ismael     252         1          251  0%
Ismael@Ismael-gw-01:~$ show dhcp server leases
IP address    Hardware address    State    Lease start          Lease expiration     Remaining    Pool    Hostname
------------  ------------------  -------  -------------------  -------------------  -----------  ------  ----------
10.0.0.2      00:50:79:66:68:00   active   2022/10/22 15:47:22  2022/10/23 15:47:22  23:58:04     Ismael  PC1-Ismael
```

12. На маршрутизаторе посмотрите журнал работы DHCP-сервера:



13. В отчёте проанализируйте захваченные анализатором трафика пакеты, относящиеся к работе DHCP и назначению адреса устройству.

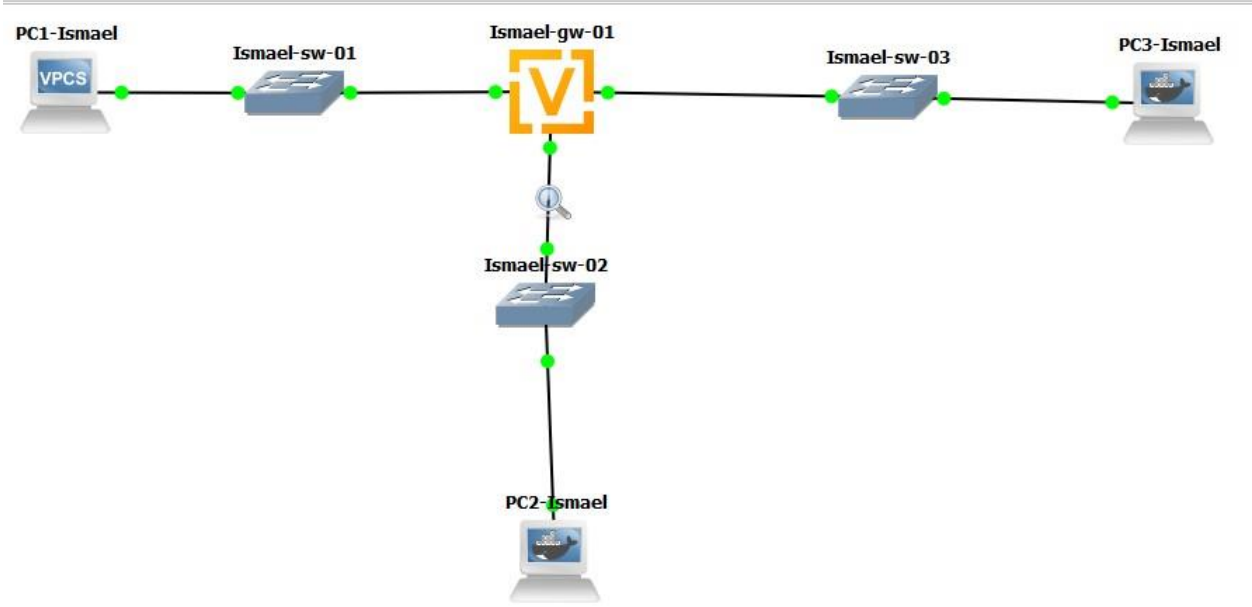


7.3.2. Настройка DHCP в случае IPv6

1. В предыдущем проекте в рабочем пространстве дополните сеть, разместив и соединив устройства в соответствии с топологией, приведённой на рис. 7.2. Используйте хост (клиент) Kali Linux CLI (добавьте образ Kali Linux CLI в перечень устройств в GNS3), поскольку клиент VPCS не поддерживает DHCPv6.

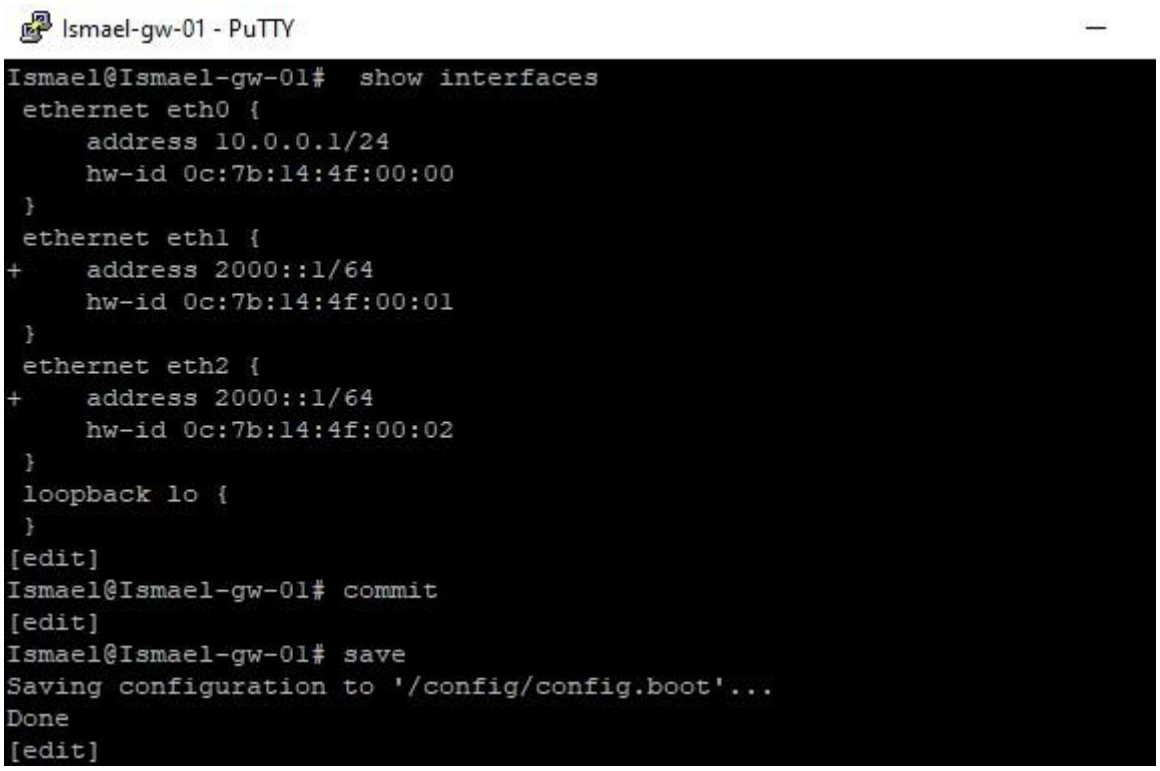
2. Измените отображаемые названия устройств. Коммутаторам присвойте названия по принципу username-sw-0x, маршрутизаторам — по принципу username-gw-0x, VPCS — по принципу PCx-username, где вместо username укажите имя вашей учётной записи, вместо x — порядковый номер устройства.

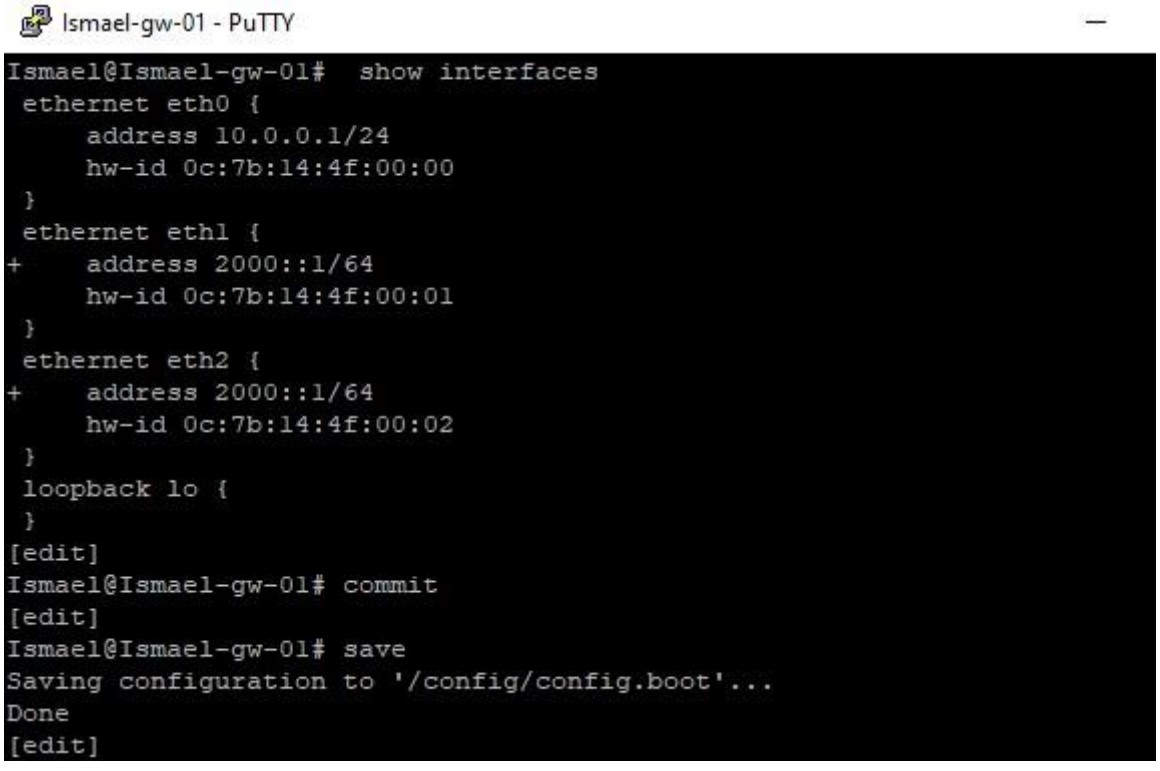
3. Включите захват трафика на соединениях между маршрутизатором gw-01 и коммутаторами sw-02 и sw-03**.**



4. Настройте адресацию IPv6 на маршрутизаторе:

```
Ismael-gw-01 login: Ismael
Password:
Linux Ismael-gw-01 5.4.156-amd64-vyos #1 SMP Thu Oct 28 18:19:14 UTC 2021 x86_64
Welcome to VyOS!

Check out project news at https://blog.vyos.io
and feel free to report bugs at https://phabricator.vyos.net

Visit https://support.vyos.io to create a support ticket.

You can change this banner using "set system login banner post-login" command.

VyOS is a free software distribution that includes multiple components,
you can check individual component licenses under /usr/share/doc/*/copyright
Use of this pre-built image is governed by the EULA you can find at
/usr/share/vyos/EULA
Ismael@Ismael-gw-01:~$ configure
[edit]
Ismael@Ismael-gw-01# set interfaces ethernet eth1 address 2000::1/64
[edit]
Ismael@Ismael-gw-01# set interfaces ethernet eth2 address 2000::1/64
[edit]
Ismael@Ismael-gw-01#  show interfaces
 ethernet eth0 {
```





5. На маршрутизаторе настройте DHCPv6 без отслеживания состояния (DHCPv6 Stateless configuration)

Ismael-gw-01 - PuTTY

```
Ismael@Ismael-gw-01# set service router-advert interface eth1 prefix  2000::/64
[edit]
Ismael@Ismael-gw-01# set service router-advert interface eth1 other-config-flag
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-netwok-name Ismael-statele
ss

  Configuration path: service dhcpv6-server [shared-netwok-name] is not valid
  Set failed

[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-netwok-name Ismael-statele
ss subnet 2000::0/64

  Configuration path: service dhcpv6-server [shared-netwok-name] is not valid
  Set failed

[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statel
ess
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statel
ess subnet 2000::0/64
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statel
ess common-options name-server 2000::1
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statel
ess common-options domain-search Ismael.net
[edit]
Ismael@Ismael-gw-01# commit
[edit]
Ismael@Ismael-gw-01# save
Saving configuration to '/config/config.boot'...
Done
[edit]
```

```
Ismael@Ismael-gw-01# run show configuration
interfaces {
    ethernet eth0 {
        address 10.0.0.1/24
        hw-id 0c:7b:14:4f:00:00
    }
    ethernet eth1 {
        address 2000::1/64
        hw-id 0c:7b:14:4f:00:01
    }
    ethernet eth2 {
        address 2000::1/64
        hw-id 0c:7b:14:4f:00:02
    }
    loopback lo {
    }
}
service {
    dhcp-server {
        shared-network-name Ismael {
            domain-name Ismael.net
            name-server 10.0.0.1
            subnet 10.0.0.0/24 {
                default-router 10.0.0.1
                range hosts {
                    start 10.0.0.2
                    stop 10.0.0.253
                }
            }
        }
    }
    dhcpv6-server {
        shared-network-name Ismael-stateless {
            common-options {
                domain-search Ismael.net
                name-server 2000::1
            }
            subnet 2000::0/64 {
            }
        }
    }
```

6. На узле PC2 проверьте настройки сети:

```
PC2-Ismael console is now available... Press RETURN to get started.
root@PC2-Ismael:/#  ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet6 2000::ef:10ff:fe28:a96a  prefixlen 64  scopeid 0x0<global>
        inet6 fe80::ef:10ff:fe28:a96a  prefixlen 64  scopeid 0x20<link>
        ether 02:ef:10:28:a9:6a  txqueuelen 1000  (Ethernet)
        RX packets 10  bytes 1140 (1.1 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 14  bytes 1092 (1.0 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet6 fe80::482:44ff:fe2b:399d  prefixlen 64  scopeid 0x20<link>
        ether 06:82:44:2b:39:9d  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

root@PC2-Ismael:/#  route -n -A inet6
Kernel IPv6 routing table
Destination                    Next Hop                   Flag Met Ref Use If
2000::/64                      ::                         UAe  256 1     0 eth0
fe80::/64                      ::                         U    256 1     0 eth0
fe80::/64                      ::                         U    256 1     0 eth1
::/0                           fe80::e7b:14ff:fe4f:1      UGDAe 1024 1     0 eth
0
::1/128                        ::                         Un   0   3     0 lo
2000::ef:10ff:fe28:a96a/128    ::                         Un   0   2     0 eth0
fe80::ef:10ff:fe28:a96a/128    ::                         Un   0   3     0 eth0
fe80::482:44ff:fe2b:399d/128   ::                         Un   0   2     0 eth1
ff00::/8                       ::                         U    256 3     0 eth0
ff00::/8                       ::                         U    256 1     0 eth1
::/0                           ::                         !n   -1  1     0 lo
```

7. На узле PC2 пропингуйте маршрутизатор:

8. На узле PC2 проверьте настройки DNS:

9. На узле PC2 получите адрес по DHCPv6:

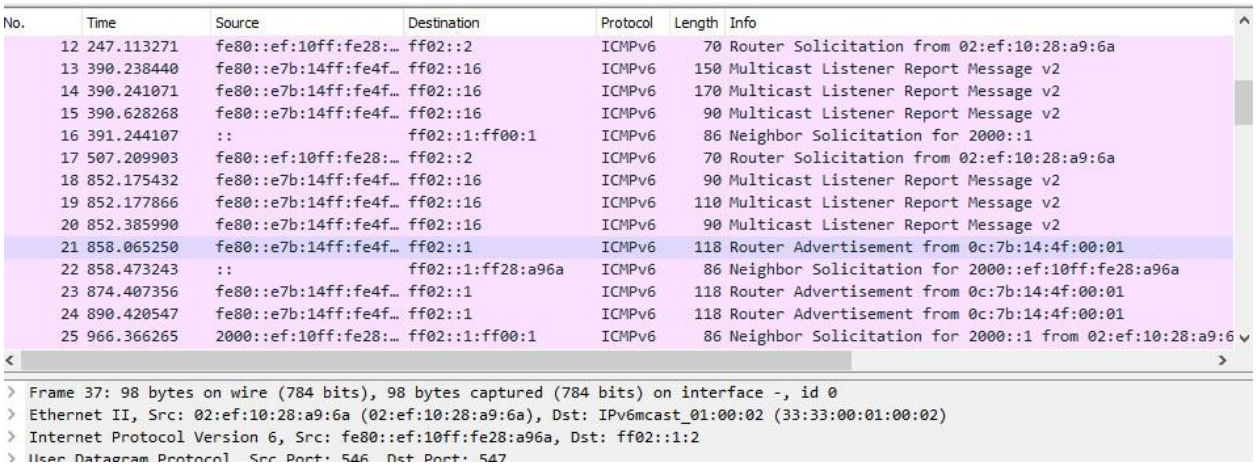
10. Вновь пропингуйте от узла PC2 маршрутизатор, проверьте настройки DNS:

```
root@PC2-Ismael:/# ping 2000::1 -c 2
PING 2000::1(2000::1) 56 data bytes
64 bytes from 2000::1: icmp_seq=1 ttl=64 time=4.01 ms
64 bytes from 2000::1: icmp_seq=2 ttl=64 time=0.951 ms

--- 2000::1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1000ms
rtt min/avg/max/mdev = 0.951/2.484/4.018/1.534 ms
root@PC2-Ismael:/#  cat /etc/resolv.conf
root@PC2-Ismael:/#  dhclient -6 -S -v eth0
Internet Systems Consortium DHCP Client 4.3.5
Copyright 2004-2016 Internet Systems Consortium.
All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/

Listening on Socket/eth0
Sending on   Socket/eth0
Created duid "\000\003\000\001\002\357\020(\251j".
PRC: Requesting information (INIT).
XMT: Forming Info-Request, 0 ms elapsed.
XMT: Info-Request on eth0, interval 1070ms.
RCV: Reply message on eth0 from fe80::e7b:14ff:fe4f:1.
PRC: Done.
root@PC2-Ismael:/# # ping 2000::1 -c2
root@PC2-Ismael:/# cat /etc/resolv.conf
search Ismael.net.
nameserver 2000::1
root@PC2-Ismael:/#  ping 2000::1 -c2
PING 2000::1(2000::1) 56 data bytes
64 bytes from 2000::1: icmp_seq=1 ttl=64 time=1.56 ms
64 bytes from 2000::1: icmp_seq=2 ttl=64 time=0.625 ms

--- 2000::1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1000ms
rtt min/avg/max/mdev = 0.625/1.094/1.564/0.470 ms
root@PC2-Ismael:/# cat /etc/resolv.conf
search Ismael.net.
nameserver 2000::1
root@PC2-Ismael:/#
```

11. На маршрутизаторе посмотрите статистику DHCP-сервера и выданные адреса

```
Ismael@Ismael-gw-01# run show dhcpv6 server leases
IPv6 address    State    Last communication    Lease expiration    Remaining
Type    Pool    IAID_DUID
--------------  -------  --------------------  ------------------  -----------
------  ------  -----------
[edit]
```

12. В отчёте поясните выведенную на маршрутизаторе и PC2 информацию, а также проанализируйте захваченные анализатором трафика пакеты, относящиеся к работе DHCPv6 и назначению адреса устройству.



No.	Time	Source	Destination	Protocol	Length	Info
12	247.113271	fe80::ef:10ff:fe28:…	ff02::2	ICMPv6	70	Router Solicitation from 02:ef:10:28:a9:6a
13	390.238440	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	150	Multicast Listener Report Message v2
14	390.241071	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	170	Multicast Listener Report Message v2
15	390.628268	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
16	391.244107	::	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for 2000::1
17	507.209903	fe80::ef:10ff:fe28:…	ff02::2	ICMPv6	70	Router Solicitation from 02:ef:10:28:a9:6a
18	852.175432	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
19	852.177866	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	110	Multicast Listener Report Message v2
20	852.385990	fe80::e7b:14ff:fe4f…	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
21	858.065250	fe80::e7b:14ff:fe4f…	ff02::1	ICMPv6	118	Router Advertisement from 0c:7b:14:4f:00:01
22	858.473243	::	ff02::1:ff28:a96a	ICMPv6	86	Neighbor Solicitation for 2000::ef:10ff:fe28:a96a
23	874.407356	fe80::e7b:14ff:fe4f…	ff02::1	ICMPv6	118	Router Advertisement from 0c:7b:14:4f:00:01
24	890.420547	fe80::e7b:14ff:fe4f…	ff02::1	ICMPv6	118	Router Advertisement from 0c:7b:14:4f:00:01
25	966.366265	2000::ef:10ff:fe28:…	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for 2000::1 from 02:ef:10:28:a9:6

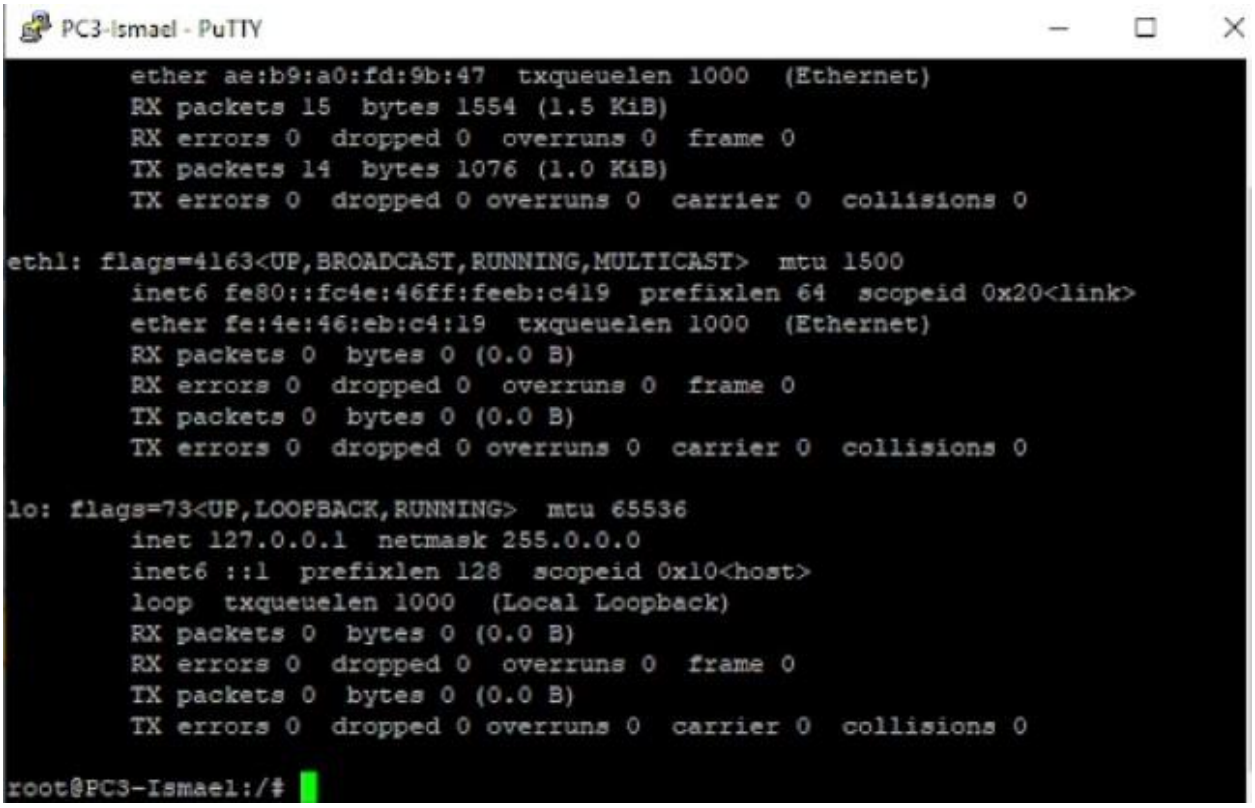
```
> Frame 37: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface -, id 0
> Ethernet II, Src: 02:ef:10:28:a9:6a (02:ef:10:28:a9:6a), Dst: IPv6mcast_01:00:02 (33:33:00:01:00:02)
> Internet Protocol Version 6, Src: fe80::ef:10ff:fe28:a96a, Dst: ff02::1:2
> User Datagram Protocol, Src Port: 546, Dst Port: 547
```

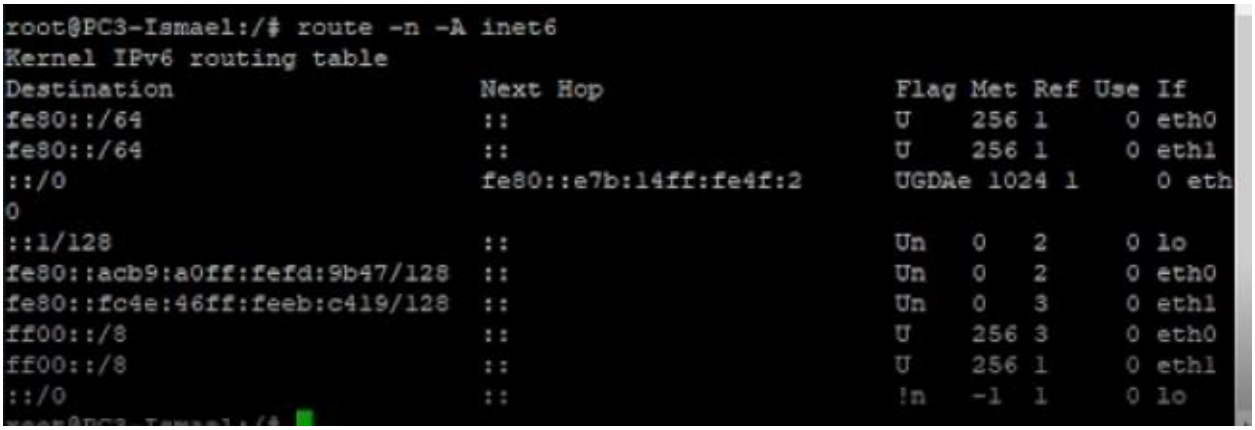
13.На маршрутизаторе настройте DHCPv6 с отслеживанием состояния (DHCPv6 Stateful configuration):

14. На маршрутизаторе посмотрите статистику DHCP-сервера и выданные адреса:

```
Ismael@Ismael-gw-01# set service router-advert interface eth2 managed-flag
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statef
ul
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statef
ul subnet 2001::0/64
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statef
ul subnet 2001::0/64 name-server 2001::1
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statef
ul subnet 2001::0/64 domain-search Ismael.net
[edit]
Ismael@Ismael-gw-01# set service dhcpv6-server shared-network-name Ismael-statef
ul subnet 2001::0/64 address-range start 2001::100 stop 2001::199
[edit]
Ismael@Ismael-gw-01# commit
[edit]
Ismael@Ismael-gw-01# save
Saving configuration to '/config/config.boot'...
Done
[edit]
Ismael@Ismael-gw-01# # run show dhcpv6 server leases
[edit]
Ismael@Ismael-gw-01#
```

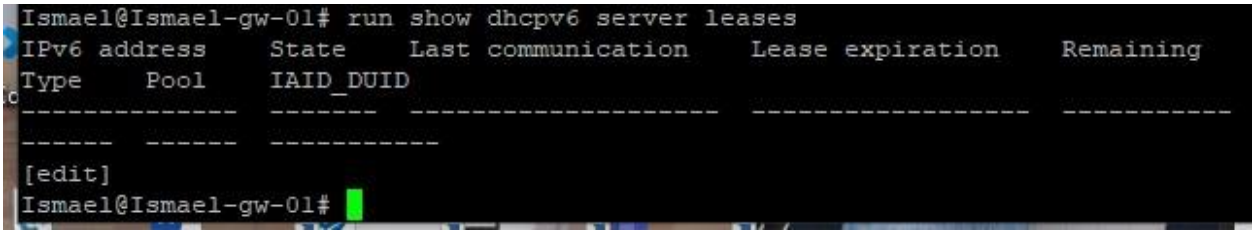
15. Подключитесь к узлу PC3 и проверьте настройки сети:



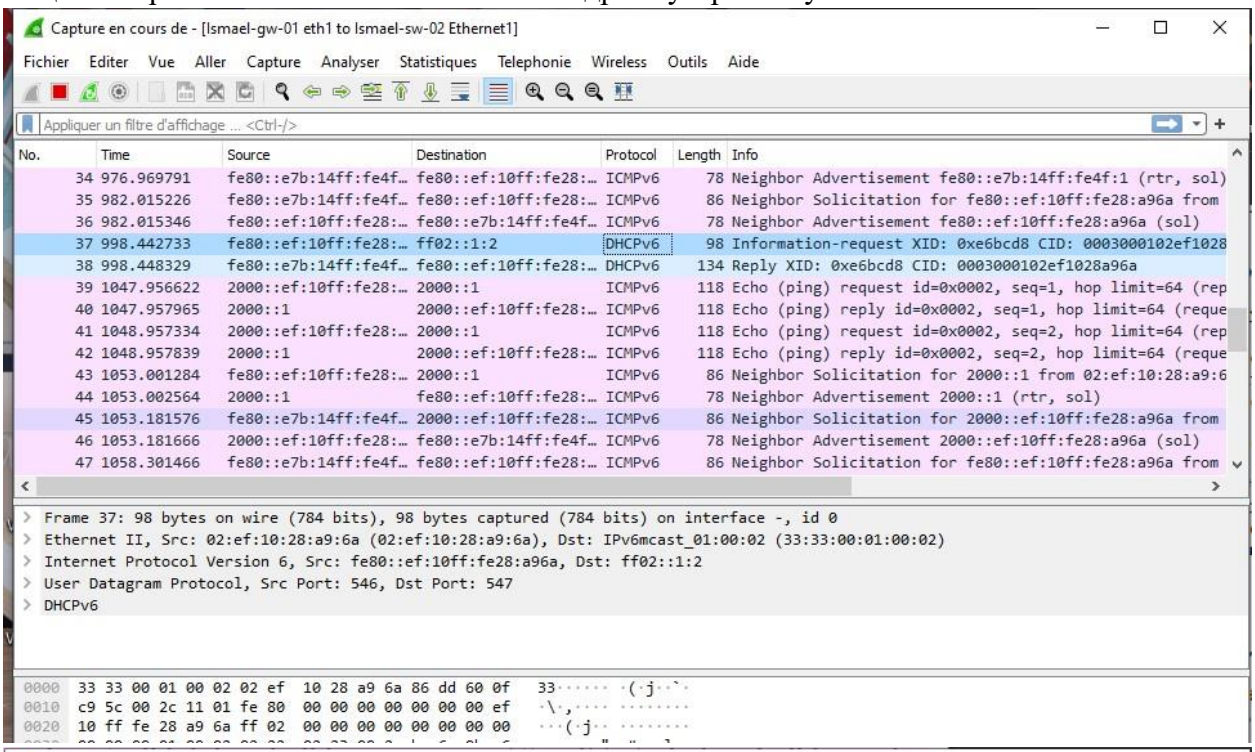


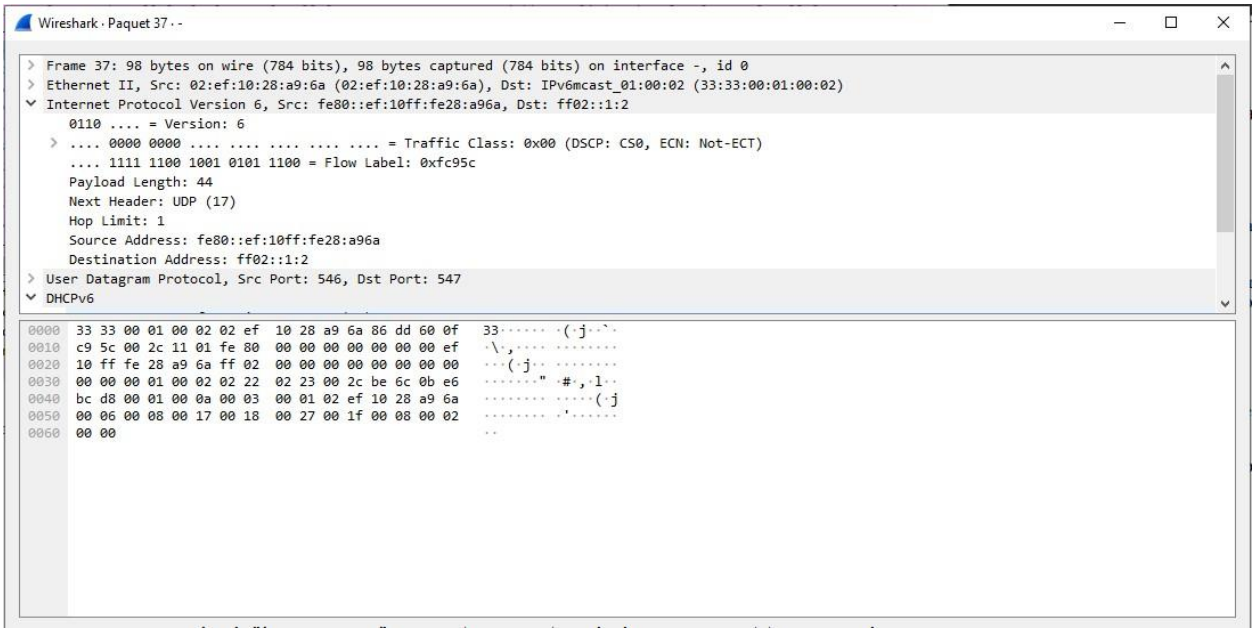
17. На узле PC3 получите адрес по DHCPv6:

19. На маршрутизаторе посмотрите статистику DHCP-сервера и выданные адреса:



20. В отчёте поясните выведенную на маршрутизаторе и PC3 информацию, а также проанализируйте захваченные анализатором трафика пакеты, относящиеся к работе DHCPv6 и назначению адреса устройству.





ВЫВОД:

Мы получили навыки настройки службы DHCP на сетевом оборудовании для распределения адресов IPv4 и IPv6.