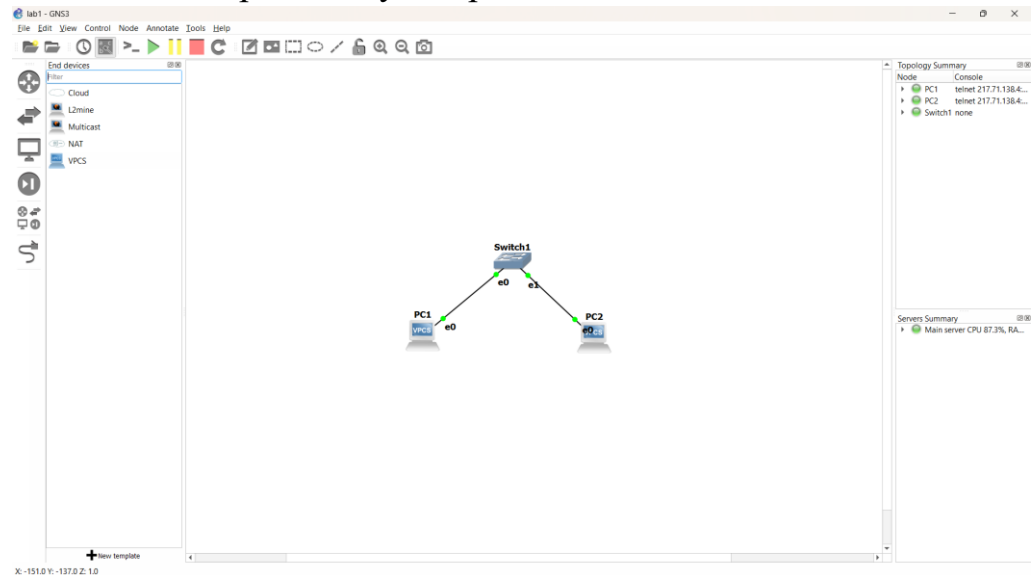


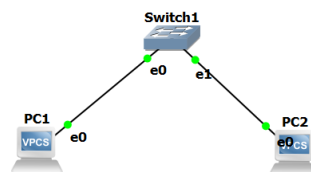
Лабораторная работа №1

Тема: Освоение инструментария для выполнения работ, построение простой сети

1. Установить и настроить эмулятор GNS3



2. Создать простейшую сеть, состоящую из 1 коммутатора и 2 компьютеров, назначить им произвольные ip адреса из одной сети.



PC1:
ip 192.168.1.10/24
PC2:
ip 192.168.1.20/24

используем showip:

```
show ip
NAME       : PC1[1]
IP/MASK    : 192.168.1.10/24
GATEWAY    : 0.0.0.0
DNS        :
MAC        : 00:50:79:66:68:00
LPORT      : 20532
RHOST:PORT : 127.0.0.1:20533
MTU        : 1500

PC1> █

show ip
NAME       : PC2[1]
IP/MASK    : 192.168.1.20/24
GATEWAY    : 0.0.0.0
DNS        :
MAC        : 00:50:79:66:68:01
LPORT      : 20534
RHOST:PORT : 127.0.0.1:20535
MTU        : 1500

PC2> █
```

3. Запустить симуляцию, выполнить команду ping с одного из компьютеров, используя ip адрес второго компьютера.

PC1: ping 192.168.1.20

```
ping 192.168.1.20
84 bytes from 192.168.1.20 icmp_seq=1 ttl=64 time=0.137 ms
84 bytes from 192.168.1.20 icmp_seq=2 ttl=64 time=0.167 ms
84 bytes from 192.168.1.20 icmp_seq=3 ttl=64 time=0.849 ms
84 bytes from 192.168.1.20 icmp_seq=4 ttl=64 time=0.208 ms
84 bytes from 192.168.1.20 icmp_seq=5 ttl=64 time=0.160 ms
^C
PC1> █
```

4. Перехватить трафик протокола arp на всех линках(nb!), задокументировать и проанализировать заголовки пакетов в программе Wireshark, для фильтрации трафика, относящегося к указанному протоколу использовать фильтры Wireshark

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	Private_66:68:00	Broadcast	ARP	64	Who has 192.168.1.20? Tell 192.168.1.10
2	0.000000	Private_66:68:01	Private_66:68:00	ARP	64	192.168.1.20 is at 00:50:79:66:68:01
3	0.001064	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x91f9, seq=1/256, ttl=64 (reply in 4)
4	0.001136	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x91f9, seq=1/256, ttl=64 (request in 3)
5	1.002294	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x92f9, seq=2/512, ttl=64 (reply in 6)
6	1.002449	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x92f9, seq=2/512, ttl=64 (request in 5)
7	2.003576	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x93f9, seq=3/768, ttl=64 (reply in 8)
8	2.003657	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x93f9, seq=3/768, ttl=64 (request in 7)
9	3.004706	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x94f9, seq=4/1024, ttl=64 (reply in 10)
10	3.004803	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x94f9, seq=4/1024, ttl=64 (request in 9)
11	4.005881	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x95f9, seq=5/1280, ttl=64 (reply in 12)
12	4.006013	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x95f9, seq=5/1280, ttl=64 (request in 11)
13	10.207987	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9bf9, seq=1/256, ttl=64 (reply in 14)
14	10.208124	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9bf9, seq=1/256, ttl=64 (request in 13)
15	11.209187	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9cf9, seq=2/512, ttl=64 (reply in 16)
16	11.209311	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9cf9, seq=2/512, ttl=64 (request in 15)
17	12.210344	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9df9, seq=3/768, ttl=64 (reply in 18)
18	12.210469	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9df9, seq=3/768, ttl=64 (request in 17)
19	13.211395	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9ef9, seq=4/1024, ttl=64 (reply in 20)
20	13.211574	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9ef9, seq=4/1024, ttl=64 (request in 19)
21	14.212763	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9ff9, seq=5/1280, ttl=64 (reply in 22)

Frame 1: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface -, id 0

Ethernet II, Src: Private_66:68:00 (00:50:79:66:68:00), Dst: Broadcast (ff:ff:ff:ff:ff:ff)

Address Resolution Protocol (request)

Hardware type: Ethernet (1)

Protocol type: IPv4 (0x0800)

Hardware size: 6

Protocol size: 4

Opcode: request (1)

Sender MAC address: Private_66:68:00 (00:50:79:66:68:00)

Sender IP address: 192.168.1.10

Target MAC address: Broadcast (ff:ff:ff:ff:ff:ff)

Target IP address: 192.168.1.20

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	Private_66:68:00	Broadcast	ARP	64	Who has 192.168.1.20? Tell 192.168.1.10
2	0.000000	Private_66:68:01	Private_66:68:00	ARP	64	192.168.1.20 is at 00:50:79:66:68:01
3	0.001064	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x91f9, seq=1/256, ttl=64 (reply in 4)
4	0.001136	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x91f9, seq=1/256, ttl=64 (request in 3)
5	1.002294	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x92f9, seq=2/512, ttl=64 (reply in 6)
6	1.002449	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x92f9, seq=2/512, ttl=64 (request in 5)
7	2.003576	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x93f9, seq=3/768, ttl=64 (reply in 8)
8	2.003657	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x93f9, seq=3/768, ttl=64 (request in 7)
9	3.004706	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x94f9, seq=4/1024, ttl=64 (reply in 10)
10	3.004803	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x94f9, seq=4/1024, ttl=64 (request in 9)
11	4.005881	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) request id=0x95f9, seq=5/1280, ttl=64 (reply in 12)
12	4.006013	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) reply id=0x95f9, seq=5/1280, ttl=64 (request in 11)
13	10.207987	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9bf9, seq=1/256, ttl=64 (reply in 14)
14	10.208124	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9bf9, seq=1/256, ttl=64 (request in 13)
15	11.209187	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9cf9, seq=2/512, ttl=64 (reply in 16)
16	11.209311	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9cf9, seq=2/512, ttl=64 (request in 15)
17	12.210344	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9df9, seq=3/768, ttl=64 (reply in 18)
18	12.210469	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9df9, seq=3/768, ttl=64 (request in 17)
19	13.211395	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9ef9, seq=4/1024, ttl=64 (reply in 20)
20	13.211574	192.168.1.10	192.168.1.20	ICMP	98	Echo (ping) reply id=0x9ef9, seq=4/1024, ttl=64 (request in 19)
21	14.212763	192.168.1.20	192.168.1.10	ICMP	98	Echo (ping) request id=0x9ff9, seq=5/1280, ttl=64 (reply in 22)

Frame 2: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface -, id 0

Ethernet II, Src: Private_66:68:01 (00:50:79:66:68:01), Dst: Private_66:68:00 (00:50:79:66:68:00)

Address Resolution Protocol (reply)

Hardware type: Ethernet (1)

Protocol type: IPv4 (0x0800)

Hardware size: 6

Protocol size: 4

Opcode: reply (2)

Sender MAC address: Private_66:68:01 (00:50:79:66:68:01)

Sender IP address: 192.168.1.20

Target MAC address: Private_66:68:00 (00:50:79:66:68:00)

Target IP address: 192.168.1.10

ARP – запрос отправляется на широковещательный MAC – адрес. Коммутатор же, в свою очередь получает отправленный ARP – запрос, проверяет таблицу ARP и при условии, что нашел нужный адрес, отправляет его отправителю в виде ARP – ответа.

5. Создать простейшую сеть, состоящую из 1 маршрутизатора и 2 компьютеров, назначить им произвольные ip адреса из разных сетей

Выполняем настройку маршрутизатора c3600

```
R1#conf t
R1(config-if)#int FastEthernet0/0
R1(config-if)#no shutdown
R1(config-if)#ip address 192.168.1.1 255.255.255.0
```

```
R1#conf t
R1(config-if)#int FastEthernet1/0
R1(config-if)#no shutdown
R1(config-if)#ip address 192.168.2.1 255.255.255.0
```

```
R1#
R1#show ip int brief
Interface                IP-Address      OK? Method Status          Protocol
FastEthernet0/0          unassigned      YES unset  administratively down down
FastEthernet1/0          unassigned      YES unset  administratively down down
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int FastEthernet0/0
R1(config-if)#no shutdown
R1(config-if)#
*Mar  1 00:00:56.615: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:00:57.615: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#^Z
R1#conf
*Mar  1 00:01:32.831: %SYS-5-CONFIG_I: Configured from console by console
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int FastEthernet1/0
R1(config-if)#no shutdown
R1(config-if)#ip address
*Mar  1 00:02:08.407: %LINK-3-UPDOWN: Interface FastEthernet1/0, changed state to up
*Mar  1 00:02:09.407: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R1(config-if)#ip address 192.168.2.1 255.255.255.0
R1(config-if)#^Z
R1#
*Mar  1 00:02:37.583: %SYS-5-CONFIG_I: Configured from console by console
R1#
```

Выполняем настройку компьютеров

```
PC3> ip 192.168.1.2 255.255.255.0 192.168.1.1
```

```
PC3> save
```

```
PC4> ip 192.168.2.2 255.255.255.0 192.168.2.1
```

```
PC4> save
```

Executing the startup file	Executing the startup file
PC3> ip 192.168.1.2 255.255.255.0 192.168.1.1 Checking for duplicate address... PC3 : 192.168.1.2 255.255.255.0 gateway 192.168.1.1	PC4> ip 192.168.2.2 255.255.255.0 192.168.2.1 Checking for duplicate address... PC4 : 192.168.2.2 255.255.255.0 gateway 192.168.2.1
PC3> save Saving startup configuration to startup.vpc . done	PC4> save Saving startup configuration to startup.vpc . done
PC3> show ip	PC4> show ip
NAME : PC3[1] IP/MASK : 192.168.1.2/24 GATEWAY : 192.168.1.1 DNS : MAC : 00:50:79:66:68:00 LPORT : 20512 RHOST:PORT : 127.0.0.1:20513 MTU : 1500	NAME : PC4[1] IP/MASK : 192.168.2.2/24 GATEWAY : 192.168.2.1 DNS : MAC : 00:50:79:66:68:01 LPORT : 20514 RHOST:PORT : 127.0.0.1:20515 MTU : 1500

PC3 видит, что адрес вне его сети, поэтому он должен отправить пакет на свой шлюз, но PC3 не знает адрес шлюза, поэтому идет отправка широковещательного ARP – запроса.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
2	10.450806	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
3	14.311142	cc:01:6a:a7:00:00	CDP/VTP/DTP/PagP/UD...	CDP	347	Device ID: R1 Port ID: FastEthernet0/0
4	20.570379	Private:66:68:01	Broadcast	ARP	64	Who has 192.168.1.1? Tell 192.168.1.2
5	20.580954	cc:01:6a:a7:00:00	Private:66:68:01	ARP	60	192.168.1.1 is at cc:01:6a:a7:00:00
6	20.580995	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb728, seq=1/256, ttl=64 (reply in 7)
7	20.610973	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb728, seq=1/256, ttl=63 (request in 6)
8	20.711801	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
9	21.612293	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb828, seq=2/512, ttl=64 (reply in 10)
10	21.620933	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb828, seq=2/512, ttl=63 (request in 9)
11	22.629614	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb928, seq=3/768, ttl=64 (reply in 12)
12	22.645911	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb928, seq=3/768, ttl=63 (request in 11)
13	23.646284	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xba28, seq=4/1024, ttl=64 (reply in 14)
14	23.663478	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xba28, seq=4/1024, ttl=63 (request in 13)
15	24.663742	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xbb28, seq=5/1280, ttl=64 (reply in 16)
16	24.681553	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xbb28, seq=5/1280, ttl=63 (request in 15)
17	30.849177	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
18	41.351252	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
19	51.821340	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
20	62.320303	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
21	72.673226	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply

Frame 5: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface -, id 0

Ethernet II, Src: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00), Dst: Private:66:68:01 (00:50:79:66:68:01)

Address Resolution Protocol (reply)

Hardware type: Ethernet (1)

Protocol type: IPv4 (0x0800)

Hardware size: 6

Protocol size: 4

Opcode: reply (2)

Sender MAC address: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00)

Sender IP address: 192.168.1.1

Target MAC address: Private:66:68:01 (00:50:79:66:68:01)

Target IP address: 192.168.1.2

Маршрутизатор принимает этот запрос и отправляет ARP – ответ на интерфейс, с которого пришел запрос.

1 0.000000	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
2 10.450806	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
3 14.311142	cc:01:6a:a7:00:00	CDP/VTP/DTP/PagP/UD...	CDP	347	Device ID: R1 Port ID: FastEthernet0/0
4 20.570379	Private:66:68:01	Broadcast	ARP	64	Who has 192.168.1.1? Tell 192.168.1.2
5 20.580954	cc:01:6a:a7:00:00	Private:66:68:01	ARP	60	192.168.1.1 is at cc:01:6a:a7:00:00
6 20.580995	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb728, seq=1/256, ttl=64 (reply in 7)
7 20.610973	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb728, seq=1/256, ttl=63 (request in 6)
8 20.711801	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
9 21.612293	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb828, seq=2/512, ttl=64 (reply in 10)
10 21.620933	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb828, seq=2/512, ttl=63 (request in 9)
11 22.629614	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb928, seq=3/768, ttl=64 (reply in 12)
12 22.645911	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb928, seq=3/768, ttl=63 (request in 11)
13 23.646284	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xba28, seq=4/1024, ttl=64 (reply in 14)
14 23.663478	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xba28, seq=4/1024, ttl=63 (request in 13)
15 24.663742	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xbb28, seq=5/1280, ttl=64 (reply in 16)
16 24.681553	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xbb28, seq=5/1280, ttl=63 (request in 15)
17 30.849177	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
18 41.351252	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
19 51.821340	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
20 62.320303	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
21 72.673226	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply

Frame 9: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface -, id 0

Ethernet II, Src: Private:66:68:01 (00:50:79:66:68:01), Dst: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00)

Destination: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00)

Source: Private:66:68:01 (00:50:79:66:68:01)

Type: IPv4 (0x0800)

[Stream index: 3]

Internet Protocol Version 4, Src: 192.168.1.2, Dst: 192.168.2.2

Internet Control Message Protocol

PC3 шлет ICMP – запрос с ip получателя PC4. MAC – адрес получателя остается как MAC – адрес маршрутизатора.

Далее маршрутизатор подставляет свой MAC – адрес как адрес отправителя, а получателя как PC4 и отправляет пакет туда.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
2	10.450806	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
3	14.311142	cc:01:6a:a7:00:00	CDP/VTP/DTP/PagP/UD...	CDP	347	Device ID: R1 Port ID: FastEthernet0/0
4	20.570379	Private:66:68:01	Broadcast	ARP	64	Who has 192.168.1.1? Tell 192.168.1.2
5	20.580954	cc:01:6a:a7:00:00	Private:66:68:01	ARP	60	192.168.1.1 is at cc:01:6a:a7:00:00
6	20.580995	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb728, seq=1/256, ttl=64 (reply in 7)
7	20.610973	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb728, seq=1/256, ttl=63 (request in 6)
8	20.711801	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
9	21.612293	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb828, seq=2/512, ttl=64 (reply in 10)
10	21.620933	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb828, seq=2/512, ttl=63 (request in 9)
11	22.629614	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xb928, seq=3/768, ttl=64 (reply in 12)
12	22.645911	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xb928, seq=3/768, ttl=63 (request in 11)
13	23.646284	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xba28, seq=4/1024, ttl=64 (reply in 14)
14	23.663478	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xba28, seq=4/1024, ttl=63 (request in 13)
15	24.663742	192.168.1.2	192.168.2.2	ICMP	98	Echo (ping) request id=0xbb28, seq=5/1280, ttl=64 (reply in 16)
16	24.681553	192.168.2.2	192.168.1.2	ICMP	98	Echo (ping) reply id=0xbb28, seq=5/1280, ttl=63 (request in 15)
17	30.849177	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
18	41.351252	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
19	51.821340	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
20	62.320303	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply
21	72.673226	cc:01:6a:a7:00:00	cc:01:6a:a7:00:00	LOOP	60	Reply

Frame 10: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface -, id 0

Ethernet II, Src: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00), Dst: Private:66:68:01 (00:50:79:66:68:01)

Destination: Private:66:68:01 (00:50:79:66:68:01)

Source: cc:01:6a:a7:00:00 (cc:01:6a:a7:00:00)

Type: IPv4 (0x0800)

[Stream index: 3]

Internet Protocol Version 4, Src: 192.168.2.2, Dst: 192.168.1.2

Internet Control Message Protocol

PC4 определяет, что пакет пришел из другой сети и ищет мас – адрес шлюза, посылая ARP – запрос также, как и PC3. После этого он

посылает ICMP – ответ на ip PC3, подставляя mac шлюза как адрес получателя