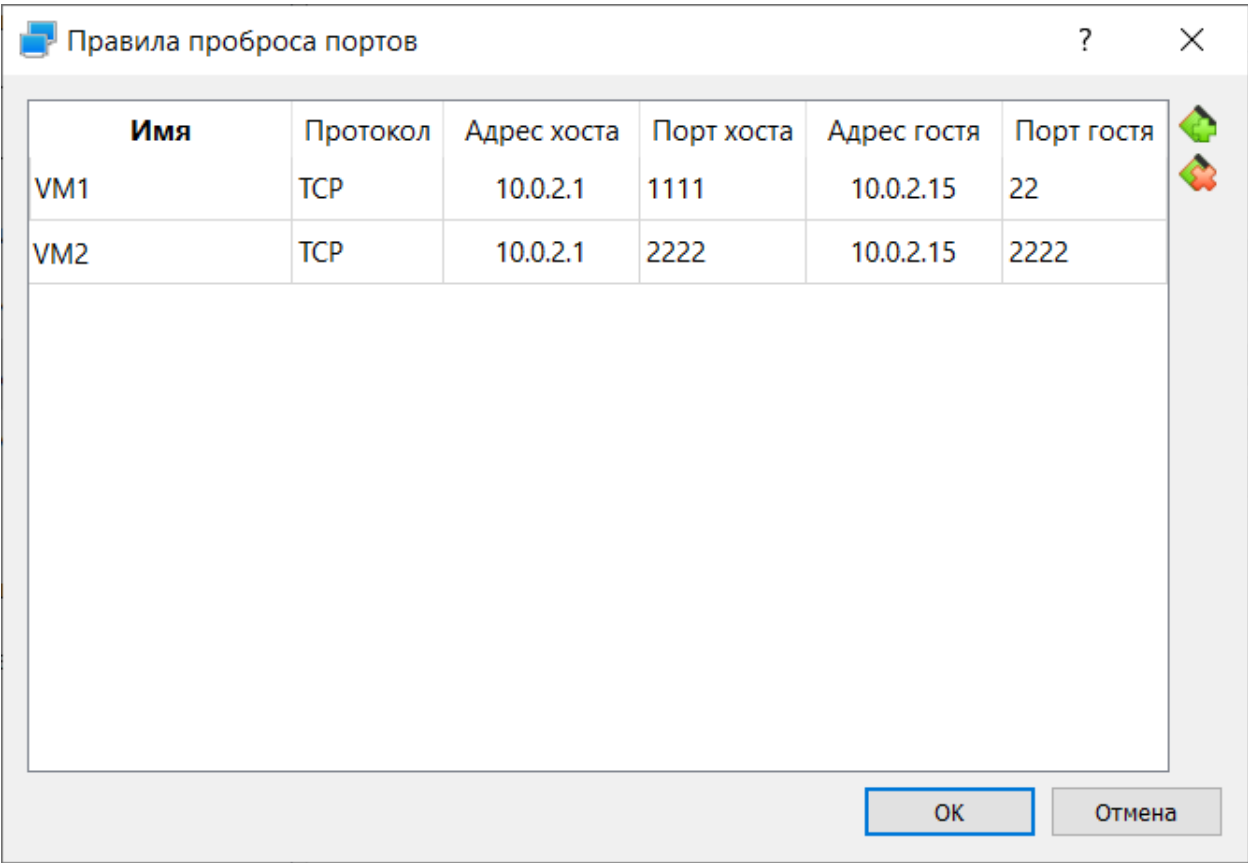
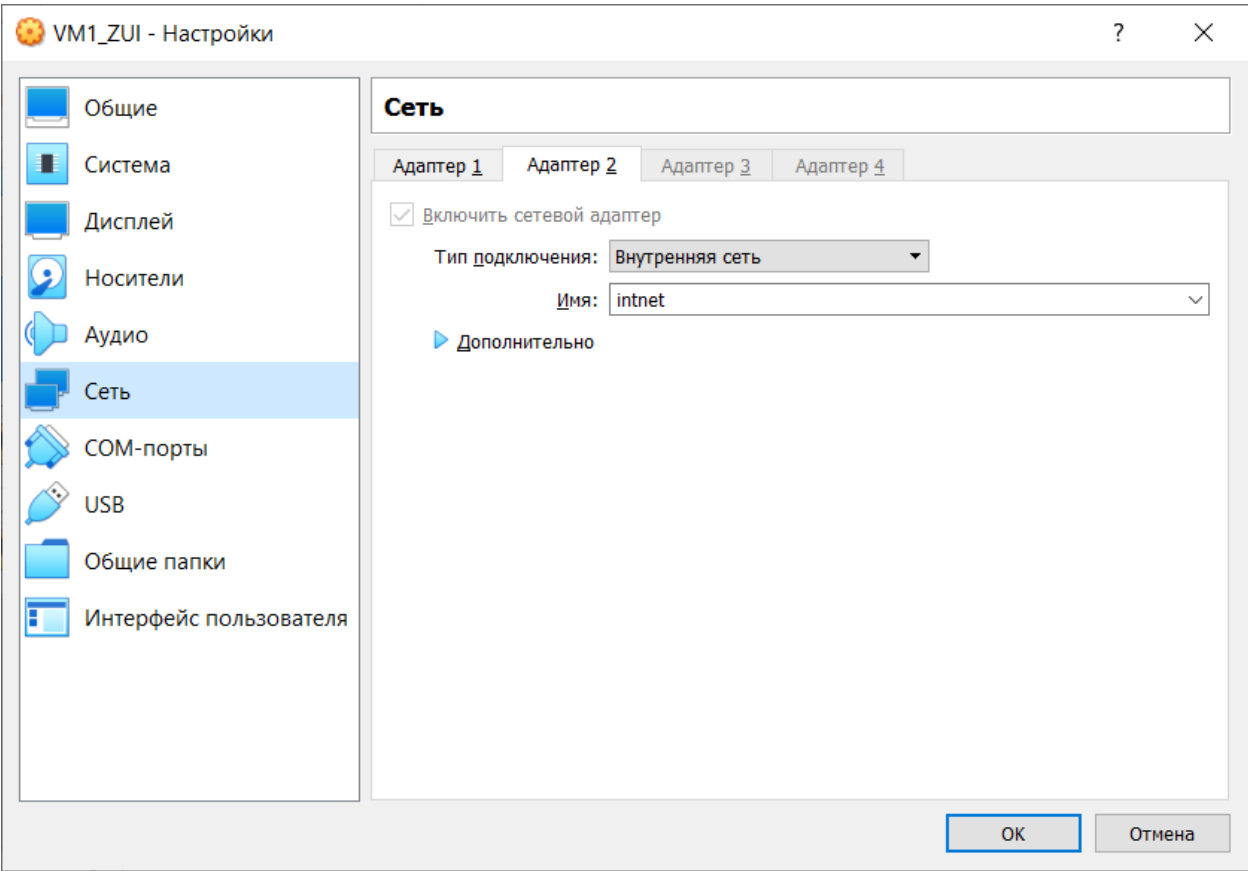
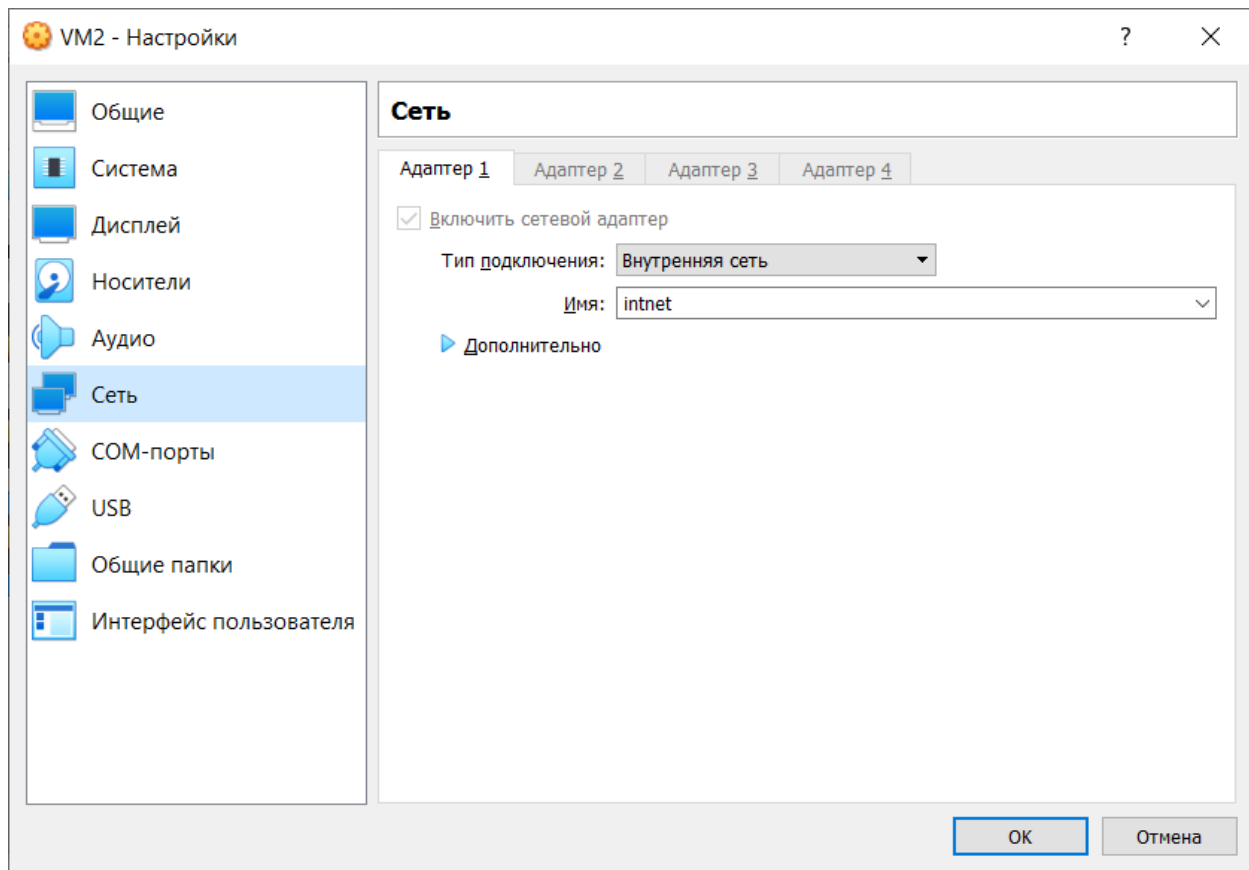


Task 6.1

1. Configuring network cards  
VM1





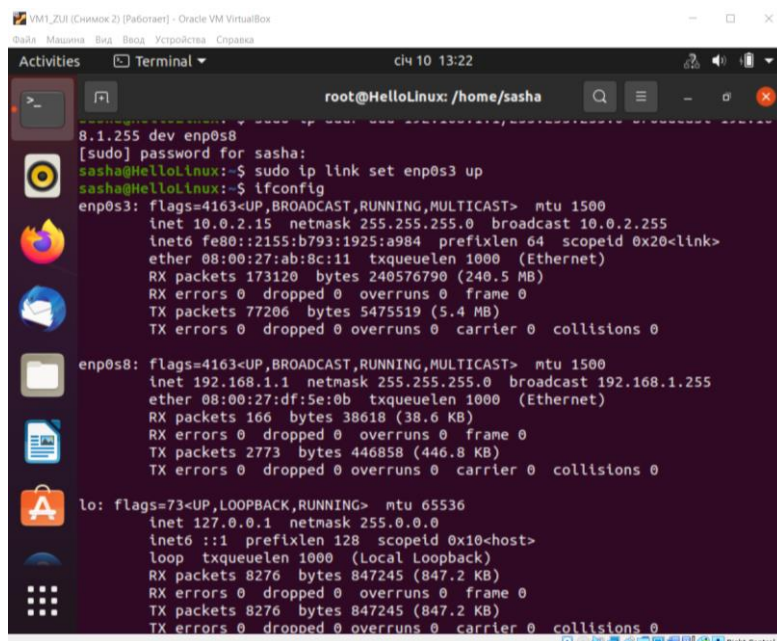
## 2. Configure all network interfaces

VM1:

Sudo su

Ip addr add 192.168.1.1/255.255.255.0 broadcast 192.168.1.255 dev enp0s8

Ip link set enp0s3 up



Enable forwarding on VM1

Sudo echo 1 > /proc/sys/net/ipv4/ip\_forward

VM 2:

```
Sudo ip addr add 192.168.1.10/255.255.255.0 broadcast 192.168.1.255 dev enp0s3
```

```
Sudo link set enp0s3 up
```

```
Sudo ip route add default via 192.168.1.1 dev enp0s3
```

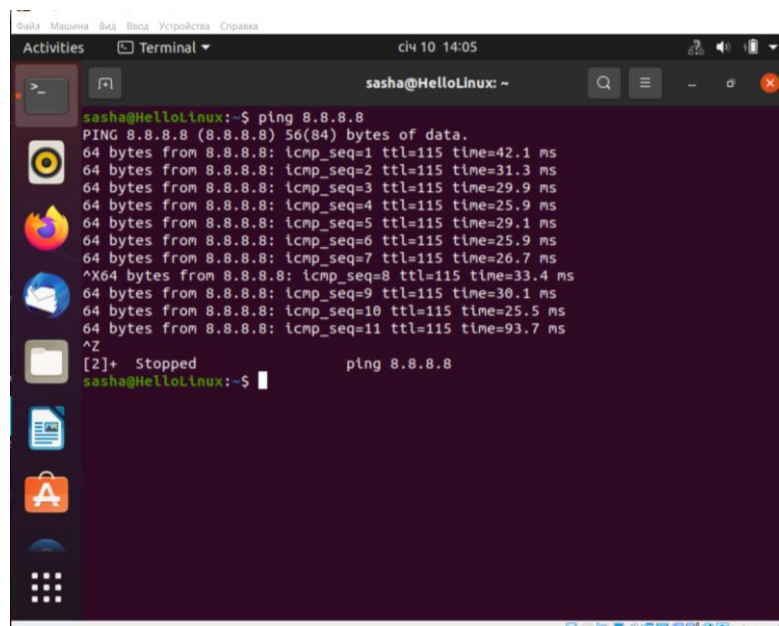
```
Sudo echo nameserver 8.8.8.8 >> /etc/resolv.conf
```

Add rules for IPTABLES and MASQUERADE

```
Sudo iptables -t nat -A POSTROUTING -o enp0s3 -j MASQUERADE
```

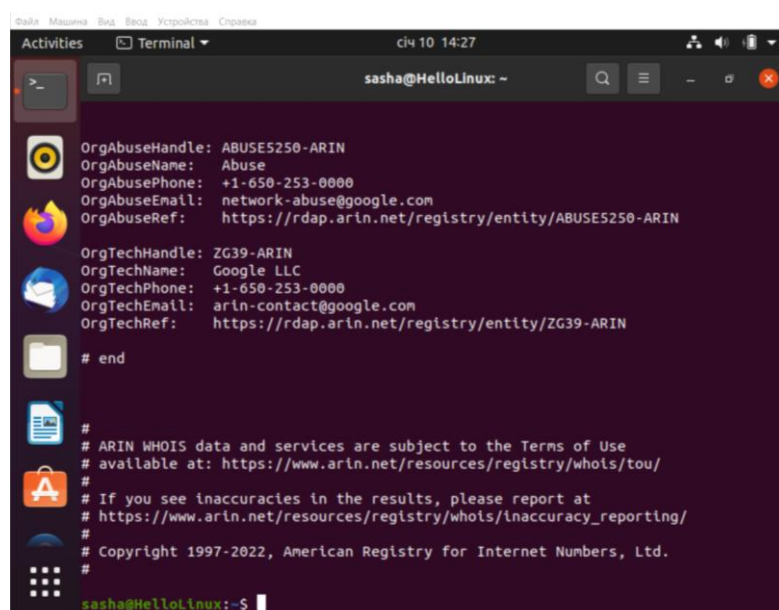
```
Sudo iptables -t nat -A PREROUTING -i enp0s3 -p tcp -dport 2222 -j DNAT --to-destination 192.168.1.10:22
```

### 3. Check access to the internet

A terminal window titled 'Terminal' with the prompt 'sasha@HelloLinux: ~'. The user has executed the command 'ping 8.8.8.8'. The output shows 11 successful ping requests to 8.8.8.8, each receiving 64 bytes of data with varying TTL and time values. The terminal window has a dark purple background and standard Linux desktop icons on the left.

```
sasha@HelloLinux:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=115 time=42.1 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=115 time=31.3 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=115 time=29.9 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=115 time=25.9 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=115 time=29.1 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=115 time=25.9 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=115 time=26.7 ms
^X64 bytes from 8.8.8.8: icmp_seq=8 ttl=115 time=33.4 ms
64 bytes from 8.8.8.8: icmp_seq=9 ttl=115 time=30.1 ms
64 bytes from 8.8.8.8: icmp_seq=10 ttl=115 time=25.5 ms
64 bytes from 8.8.8.8: icmp_seq=11 ttl=115 time=93.7 ms
^Z
[2]+  Stopped                  ping 8.8.8.8
sasha@HelloLinux:~$
```

### 4. Determine IP address 8.8.8.8

A terminal window titled 'Terminal' with the prompt 'sasha@HelloLinux: ~'. The user has executed a command that displays ARIN WHOIS data for the IP address 8.8.8.8. The output shows details for the 'ABUSE5250-ARIN' and 'ZG39-ARIN' organizations, including their names, phone numbers, email addresses, and website URLs. The terminal window has a dark purple background and standard Linux desktop icons on the left.

```
sasha@HelloLinux:~$
OrgAbuseHandle: ABUSE5250-ARIN
OrgAbuseName: Abuse
OrgAbusePhone: +1-650-253-0000
OrgAbuseEmail: network-abuse@google.com
OrgAbuseRef: https://rdap.arin.net/registry/entity/ABUSE5250-ARIN

OrgTechHandle: ZG39-ARIN
OrgTechName: Google LLC
OrgTechPhone: +1-650-253-0000
OrgTechEmail: arin-contact@google.com
OrgTechRef: https://rdap.arin.net/registry/entity/ZG39-ARIN

# end

#
# ARIN WHOIS data and services are subject to the Terms of Use
# available at: https://www.arin.net/resources/registry/whois/tou/
#
# If you see inaccuracies in the results, please report at
# https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
#
# Copyright 1997-2022, American Registry for Internet Numbers, Ltd.
#

sasha@HelloLinux:~$
```

### 5. Determine, which IP address belongs to resource epam.com

```
Файл Машина Вид Ввод Устройства Справка
Activities Terminal c14 10 14:29 sasha@HelloLinux: ~
#
# If you see inaccuracies in the results, please report at
# https://www.arin.net/resources/registry/whois/inaccuracy_reporting/
# Copyright 1997-2022, American Registry for Internet Numbers, Ltd.
#
sasha@HelloLinux:~$ dig epam.com
; <<>> DiG 9.16.1-Ubuntu <<>> epam.com
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 679
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;epam.com. IN A
;; ANSWER SECTION:
epam.com. 1626 IN A 3.214.134.159
;; Query time: 16 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: nm c14 10 14:28:53 EET 2022
;; MSG SIZE rcvd: 53
sasha@HelloLinux:~$
```

IP epam.com 3.214.134.159

## 6. Trace the route to google.com

```
Файл Машина Вид Ввод Устройства Справка
Activities Terminal c14 10 14:44 sasha@HelloLinux: ~
sasha@HelloLinux:~$ traceroute -I www.google.com
traceroute to www.google.com (172.217.19.100), 30 hops max, 60 byte packets
 1 _gateway (10.0.2.2) 0.678 ms 0.641 ms 0.632 ms
 2 192.168.1.1 (192.168.1.1) 3.745 ms 3.739 ms 4.523 ms
 3 176-8-215-252.broadband.kyivstar.net (176.8.215.252) 22.255 ms 22.244 ms
 22.236 ms
 4 74.125.32.161 (74.125.32.161) 26.797 ms 26.778 ms 26.766 ms
 5 74.125.32.160 (74.125.32.160) 25.874 ms 26.742 ms 26.630 ms
 6 108.170.248.155 (108.170.248.155) 35.807 ms 30.189 ms 30.156 ms
 7 * * *
 8 142.251.77.181 (142.251.77.181) 49.516 ms 50.370 ms 50.358 ms
 9 74.125.242.241 (74.125.242.241) 30.738 ms 33.037 ms 33.028 ms
10 216.239.35.183 (216.239.35.183) 33.017 ms 33.008 ms 32.997 ms
11 bud02s27-in-f4.1e100.net (172.217.19.100) 32.916 ms 32.900 ms 39.131 ms
sasha@HelloLinux:~$
```