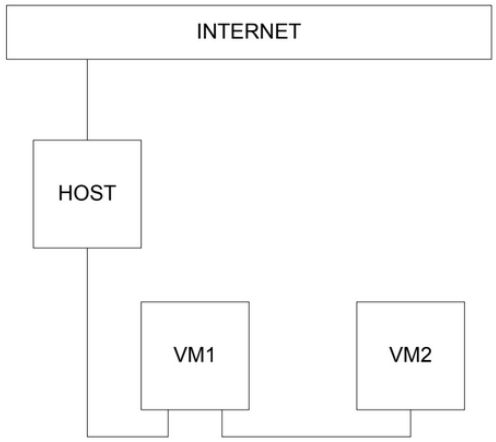
Networking. Task1.

1-4
Create and testing VM
Connection according to
Figure



VM2 has one interface (internal), VM1 has 2 interfaces (NAT and internal). Configure all network
interfaces in order to make VM2 has an access to the Internet (iptables, forward, masquerade).

Check the route from VM2 to Host.

Check the access to the Internet, (just ping, for example, 8.8.8.8).

VM 1

```
root@CsnKhai:~# cat /etc/iptables.up.rules
# Generated by iptables-save v1.4.21 on Mon Dec 27 13:04:06 2021
*filter
:INPUT ACCEPT [4:369]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [4:319]
COMMIT
# Completed on Mon Dec 27 13:04:06 2021
# Generated by iptables-save v1.4.21 on Mon Dec 27 13:04:06 2021
*nat
:PREROUTING ACCEPT [0:0]
:INPUT ACCEPT [0:0]
:OUTPUT ACCEPT [2:151]
:POSTROUTING ACCEPT [0:0]
-A POSTROUTING -o eth0 -j MASQUERADE
COMMIT
# Completed on Mon Dec 27 13:04:06 2021
```

```
root@CsnKhai:~# cat /etc/network/interfaces
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback

# NAT
auto eth0
iface eth0 inet dhcp

# Internal
auto eth1
iface eth1 inet static
address 10.10.10.1
netmask 255.255.255.0
broadcast 10.10.10.255

pre-up iptables-restore < /etc/iptables.up.rules
```

VM 2

```
sdrv@CsnKhai: $ ping 192.168.0.105
PING 192.168.0.105 (192.168.0.105) 56(84) bytes of data.
64 bytes from 192.168.0.105: icmp_seq=1 ttl=126 time=1.58 ms
64 bytes from 192.168.0.105: icmp_seq=2 ttl=126 time=2.34 ms
64 bytes from 192.168.0.105: icmp_seq=3 ttl=126 time=1.28 ms
^C
--- 192.168.0.105 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2005ms
rtt min/avg/max/mdev = 1.288/1.737/2.342/0.445 ms
```

```
sdrv@CsnKhai:~$ 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=117 time=24.6 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=117 time=25.5 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=117 time=24.2 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=117 time=23.2 ms
^C
--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 23.216/24.422/25.590/0.849 ms
```

5. Determine, which resource has a IP Address 8.8.8.8

```
root@CsnKhai:~# host 8.8.8.8
8.8.8.8.in-addr.arpa domain name pointer dns.google.
```

6. Determine, which IP address belongs To resource epam.com

```
root@CsnKhai:~# ping epam.com
PING epam.com (3.214.134.159) 56(84) bytes of data.
```

7. Determine the default gateway for you HOST and display routing table

```
root@CsnKhai:~# route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
0.0.0.0         10.0.2.2        0.0.0.0         UG    0      0        0 eth0
10.0.2.0        0.0.0.0         255.255.255.0   U     0      0        0 eth0
10.10.10.0      0.0.0.0         255.255.255.0   U     0      0        0 eth1
```

8. Trace the route to google.com	root@CsnKhai:~# traceroute google.com traceroute to google.com (142.251.39.78), 30 hops max, 60 byte packets 1 10.0.2.2 (10.0.2.2) 0.258 ms 0.201 ms 0.212 ms 2 * * * 3 * * * 4 * * * 5 * * * 6 * * * 7 *^C root@CsnKhai:~# traceroute -I google.com traceroute to google.com (142.251.39.78), 30 hops max, 60 byte packets 1 10.0.2.2 (10.0.2.2) 0.340 ms 0.309 ms 0.293 ms 2 192.168.0.1 (192.168.0.1) 1.783 ms 1.783 ms 1.617 ms 3 10.99.0.2 (10.99.0.2) 2.554 ms 2.432 ms 2.415 ms 4 142.250.162.106 (142.250.162.106) 12.164 ms 12.065 ms 12.052 ms 5 142.250.238.59 (142.250.238.59) 12.043 ms 11.929 ms 11.913 ms 6 108.170.248.155 (108.170.248.155) 21.883 ms 16.683 ms 16.457 ms 7 142.251.67.218 (142.251.67.218) 24.986 ms 24.315 ms 24.682 ms 8 74.125.242.225 (74.125.242.225) 24.683 ms 24.814 ms 24.631 ms 9 142.251.228.31 (142.251.228.31) 24.017 ms 25.287 ms 25.605 ms 10 bud02s39-in-f14.1e100.net (142.251.39.78) 25.395 ms 24.671 ms 24.874 ms