```
                    INTERNET
```

```
  HOST        VM1          VM2        VM3
              DNS
              DHCP
```

DNSMASQ
mcedit /etc/network/interfaces
        # 1-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
mcedit /etc/dnsmasq.conf
        interface=eth1
        dhcp-range=10.10.10.10,10.10.10.20,12h
mcedit /etc/dhcp/dhclient.conf
        prepend domain-name-servers 127.0.0.1;
        #request subnet-mask……….
mcedit /etc/resolv.conf
        nameserver 127.0.0.1

```
root@CsnKhai:~# ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:9e:56:f5 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe9e:56f5/64 scope link
       valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:06:d6:22 brd ff:ff:ff:ff:ff:ff
    inet 10.10.10.1/24 brd 10.10.10.255 scope global eth1
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe06:d622/64 scope link
       valid_lft forever preferred_lft forever
```

VM2
```
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:c6:1d:1f brd ff:ff:ff:ff:ff:ff
    inet 10.10.10.13/24 brd 10.10.10.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fec6:1d1f/64 scope link
       valid_lft forever preferred_lft forever
```
VM3
```
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:02:35:a9 brd ff:ff:ff:ff:ff:ff
    inet 10.10.10.14/24 brd 10.10.10.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe02:35a9/64 scope link
       valid_lft forever preferred_lft forever
```

DNSMASQ
mcedit /etc/resolv.conf
        nameserver 127.0.0.1
mcedit /etc/dhcp/dhclient.conf
        prepend domain-name-servers 127.0.0.1;
        #request subnet-mask……….

5. Check VM2 and VM3 for gaining access to DNS server (naming services).
VM2

```
student@CsnKhai:~$ ping ukr.net
PING ukr.net (212.42.76.252) 56(84) bytes of data.
64 bytes from srv252.fwdcdn.com (212.42.76.252): icmp_seq=1 ttl=58 time=30.6 ms
64 bytes from srv252.fwdcdn.com (212.42.76.252): icmp_seq=2 ttl=58 time=30.8 ms
```

VM3

```
student@CsnKhai:~$ ping i.ua
PING i.ua (91.198.36.14) 56(84) bytes of data.
64 bytes from www.i.ua (91.198.36.14): icmp_seq=1 ttl=57 time=4.00 ms
64 bytes from www.i.ua (91.198.36.14): icmp_seq=2 ttl=57 time=4.00 ms
```

2. Install and configure DHCP server on VM1.
ISC-DHCP-SERVER

mcedit /etc/default/isc-dhcp-server
        INTERFACES="eth1"

/etc/network/interfaces
        # 1-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

mcedit /etc/dhcp/dhcpd.conf
        subnet 10.10.10.0 netmask 255.255.255.0 {
        range 10.10.10.10 10.10.10.25;
        option domain-name-servers 10.10.10.1;
        option domain-name "workgroup";
        option routers 10.10.10.1;
        option broadcast-address 10.10.10.255;
        default-lease-time 604800;
        max-lease-time 604800;
        }

service isc-dhcp-server restart

Установил bind9 с параметрами по умолчанию, для работы DNS