

# NAT

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## 1. Konfiguracja kart sieciowych

Linux - serwer

```
pp@custom-server:~$ cat /etc/netplan/01-netcfg.yaml
network:
  ethernets:

    # Karta Bridge
    eth-bridge:
      match:
        macaddress: 08:00:27:0a:65:0f
      set-name: eth-bridge
      dhcp4: true

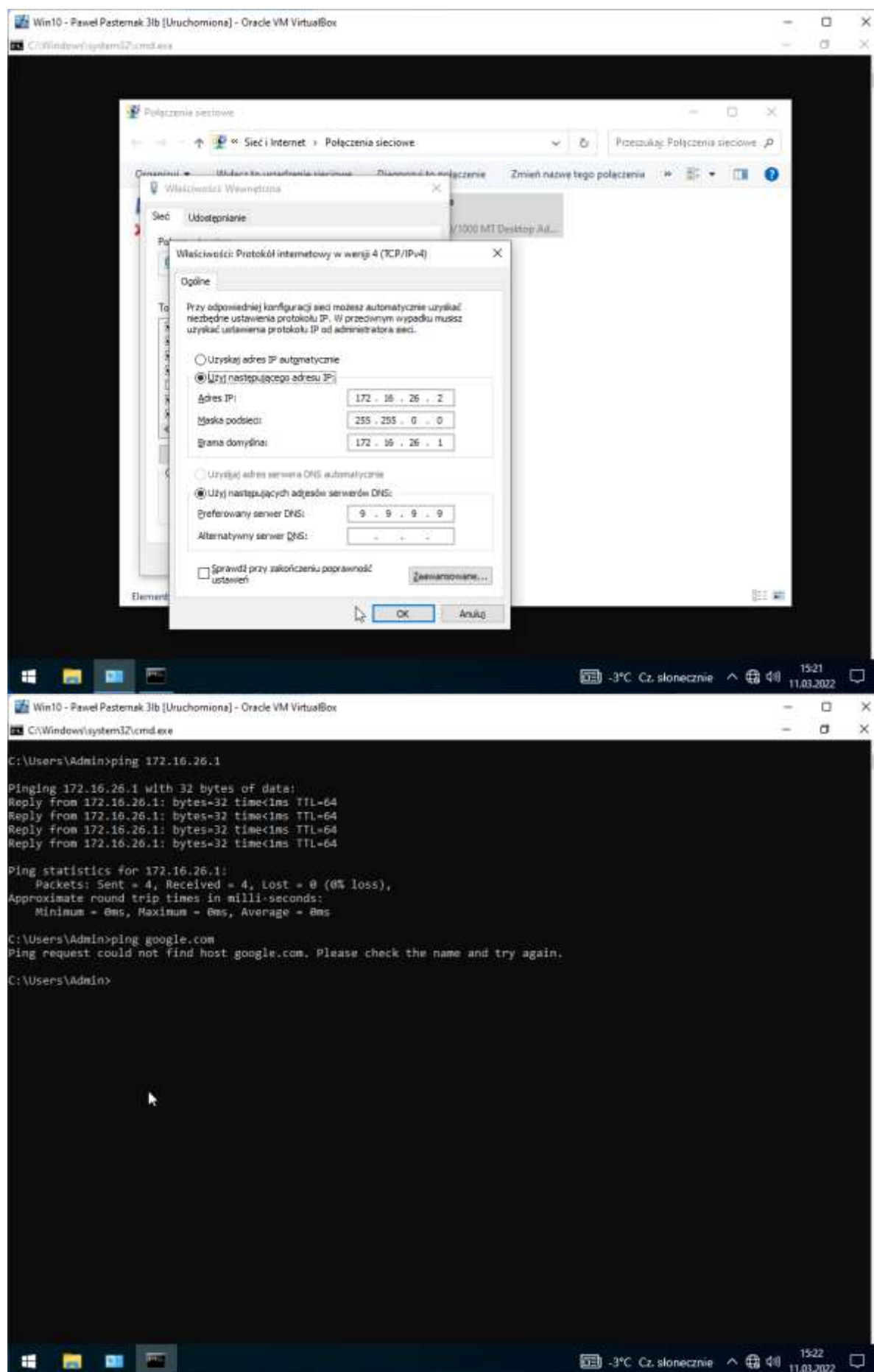
    # Karta Wewnętrzna
    eth-internal:
      match:
        macaddress: 08:00:27:f4:be:dd
      set-name: eth-internal

    # Ustawienia z lekcji NAT:
    addresses: [172.16.26.1/24]
    gateway4: 172.16.26.1

    # Ustawienia z lekcji DHCP:
    # dhcp4: false
    # addresses: [172.16.26.10/24]
    # gateway4: 172.16.26.1
```

```
pp@custom-server:~$ sudo netplan apply
pp@custom-server:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    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: eth-internal: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:f4:be:dd brd ff:ff:ff:ff:ff:ff
    inet 172.16.26.1/24 brd 172.16.26.255 scope global eth-internal
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef4:bedd/64 scope link
        valid_lft forever preferred_lft forever
3: eth-bridge: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:0a:65:0f brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.47/24 brd 192.168.1.255 scope global dynamic eth-bridge
        valid_lft 86400sec preferred_lft 86400sec
    inet6 fe80::a00:27ff:fe0a:650f/64 scope link
        valid_lft forever preferred_lft forever
pp@custom-server:~$
```

## Paweł Pasternak 3Ib – NAT Windows – klient



pingowanie w sieci lokalnej działa, natomiast nie ma dostępu do internetu

## 2. Ustawienie NAT

Włączenie przekierowanie ramek IP

```
pp@custom-server:~$ cat /etc/sysctl.conf
# Turn on Source Address Verification in all interfaces to
# prevent some spoofing attacks
#net.ipv4.conf.default.rp_filter=1
#net.ipv4.conf.all.rp_filter=1

# Uncomment the next line to enable TCP/IP SYN cookies
# See http://lwn.net/Articles/277146/
# Note: This may impact IPv6 TCP sessions too
#net.ipv4.tcp_syncookies=1

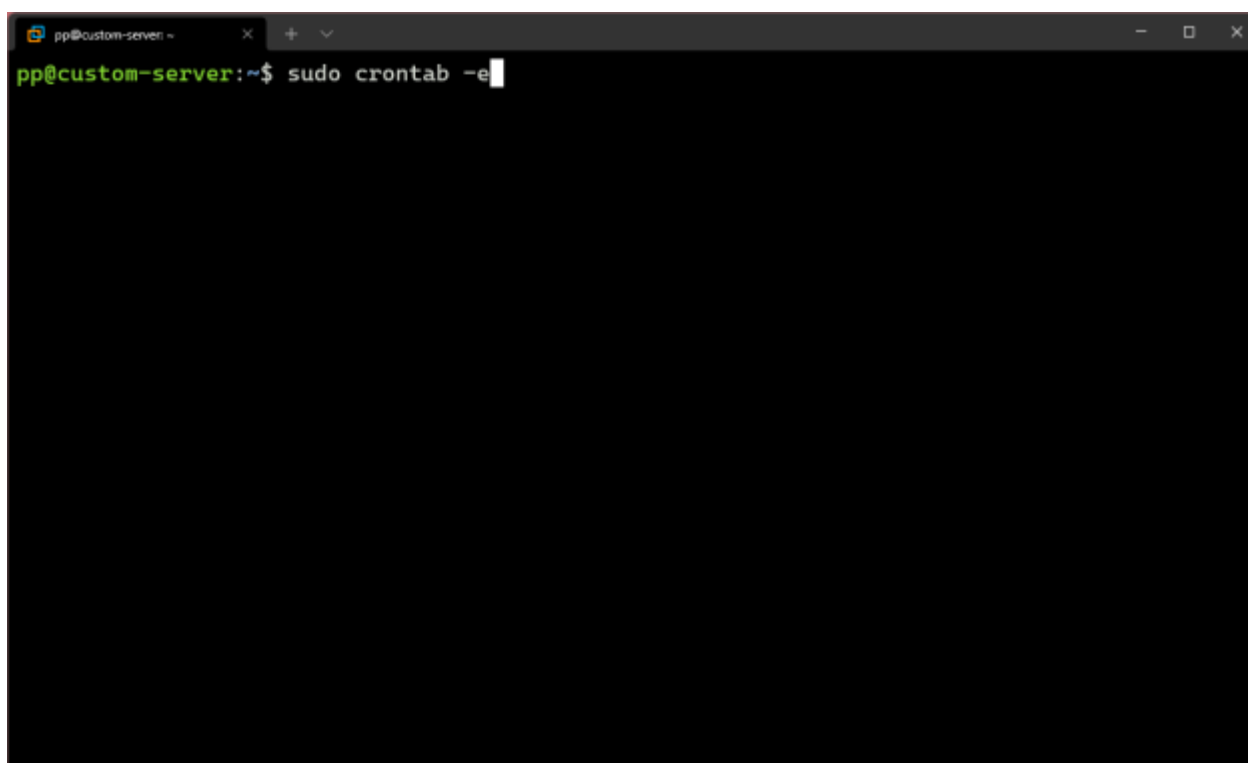
# Uncomment the next line to enable packet forwarding for IPv4
net.ipv4.ip_forward=1

# Uncomment the next line to enable packet forwarding for IPv6
# Enabling this option disables Stateless Address Autoconfiguration
# based on Router Advertisements for this host
#net.ipv6.conf.all.forwarding=1

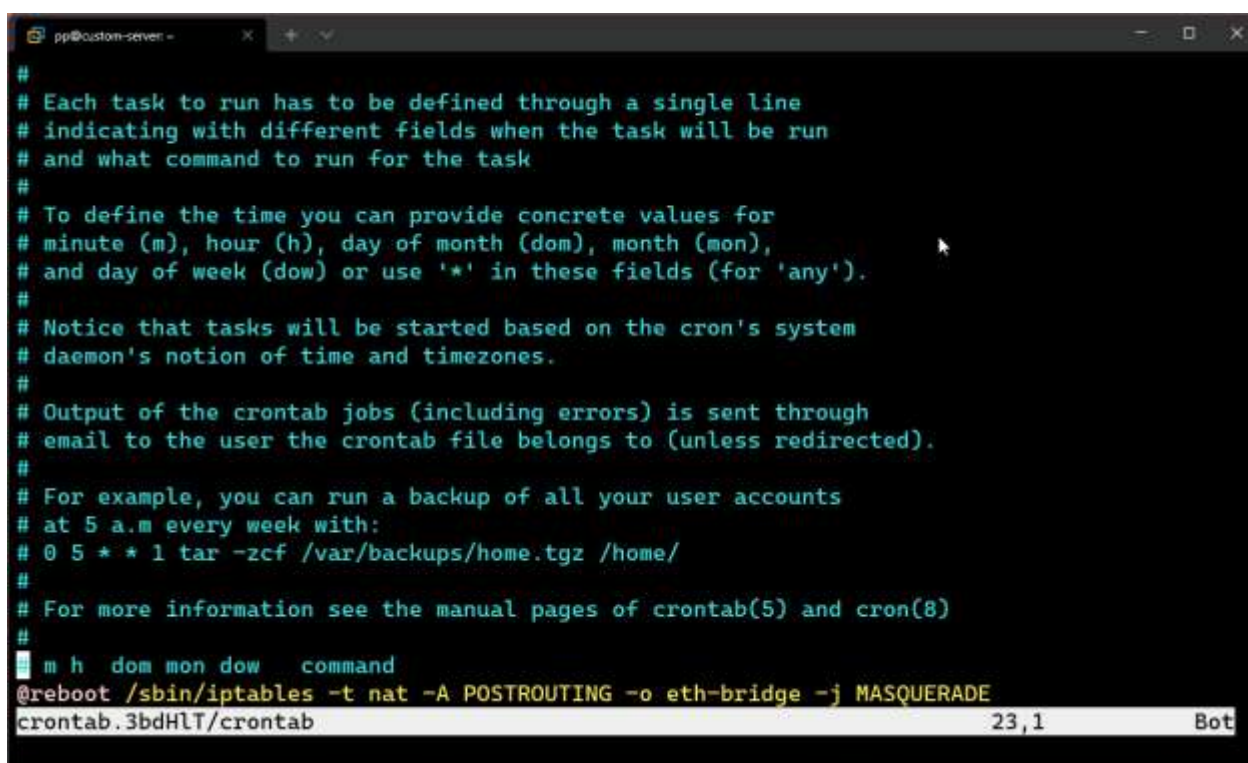
#####
# Additional settings - these settings can improve the network
# security of the host and prevent against some network attacks
# including spoofing attacks and man in the middle attacks through
# redirection. Some network environments, however, require that these
"/etc/sysctl.conf" 68L, 2350C written 28,1 36%
```

Włączenie NAT-a za pomocą iptables

```
pp@custom-server:~$ ip link list
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth-internal: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT group default qlen 1000
    link/ether 08:00:27:f4:be:dd brd ff:ff:ff:ff:ff:ff
3: eth-bridge: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT group default qlen 1000
    link/ether 08:00:27:0a:65:0f brd ff:ff:ff:ff:ff:ff
pp@custom-server:~$
pp@custom-server:~$
pp@custom-server:~$ sudo iptables -t nat -A POSTROUTING -o eth-bridge -j MASQUERADE
pp@custom-server:~$
```



```
pp@custom-server:~$ sudo crontab -e
```



```
#  
# Each task to run has to be defined through a single line  
# indicating with different fields when the task will be run  
# and what command to run for the task  
#  
# To define the time you can provide concrete values for  
# minute (m), hour (h), day of month (dom), month (mon),  
# and day of week (dow) or use '*' in these fields (for 'any').  
#  
# Notice that tasks will be started based on the cron's system  
# daemon's notion of time and timezones.  
#  
# Output of the crontab jobs (including errors) is sent through  
# email to the user the crontab file belongs to (unless redirected).  
#  
# For example, you can run a backup of all your user accounts  
# at 5 a.m every week with:  
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/  
#  
# For more information see the manual pages of crontab(5) and cron(8)  
#  
# m h dom mon dow  command  
@reboot /sbin/iptables -t nat -A POSTROUTING -o eth-bridge -j MASQUERADE  
crontab.3bdHlT/crontab 23,1 Bot
```