KVM Office Lab

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> Ноутбук с Windows 11 Pro
> Ноутбук с Linux Astra 1.8 Desktop
> ВМ с Linux Astra 1.8 Server
> Коммутатор - TP-Link TL-SG108

> Цель: Обеспечить сетевую связанность между 3-мя узлами
> Доступ в Инет для Work-Desktop и Host-Desktop по разным Wi-Fi

VM (Linux Astra 1.8 Server)

?????????? NetworkManager

```
sudo systemctl stop NetworkManager
sudo systemctl disable NetworkManager
sudo systemctl mask NetworkManager
sudo systemctl restart networking
systemctl status networking
```

????????? Static IP

```
sudo tee /etc/network/interfaces > /dev/null << 'EOF'
auto lo
iface lo inet loopback

auto enp1s0
iface enp1s0 inet static
    address 192.168.122.2/24
    gateway 192.168.122.1
    dns-nameservers 192.168.122.1
EOF
sudo systemctl restart networking
```

Host (Linux Astra 1.8 Desktop)

????????? Static IP ??? gw/dns

```
# Имя LAN адаптера (eno1)
ip -br -4 a
# Изменение IP адреса
sudo nmcli con add type ethernet ifname eno1 con-name pxe-lan \
  ipv4.method manual ipv4.addresses 192.168.10.1/24
# Применение изменений
sudo nmcli con up pxe-lan
nmcli device status
```

????????? IPv4-???????????

```
echo 'net.ipv4.ip_forward=1' | sudo tee /etc/sysctl.d/99-forward.conf
sudo sysctl --system
sysctl net.ipv4.ip_forward
```

Hook ??? libvirt firewall

```
sudo mkdir -p /etc/libvirt/hooks
sudo tee /etc/libvirt/hooks/network > /dev/null << 'EOF'
#!/bin/bash
# $1 = имя сети, $2 = операция
if [ "$1" = "default" ] && [ "$2" = "started" ]; then
    # Win11 (LAN) -> BM
    iptables -C FORWARD -i eno1 -o virbr0 -s 192.168.10.0/24 -d 192.168.122.0/24 -j ACCEPT
2>/dev/null || \
        iptables -I FORWARD 1 -i eno1 -o virbr0 -s 192.168.10.0/24 -d 192.168.122.0/24 -j
ACCEPT

    # BM -> Win11 (ответы и новые соединения)
    iptables -C FORWARD -i virbr0 -o eno1 -s 192.168.122.0/24 -d 192.168.10.0/24 -j ACCEPT
2>/dev/null || \
        iptables -I FORWARD 2 -i virbr0 -o eno1 -s 192.168.122.0/24 -d 192.168.10.0/24 -j
ACCEPT
fi
EOF
sudo chmod +x /etc/libvirt/hooks/network
```

Применение изменений

```
sudo systemctl restart libvirtd
sudo virsh net-destroy default && sudo virsh net-start default
sudo virsh net-autostart default

# Проверка правил
sudo iptables -L FORWARD -n -v --line-numbers | head
```

Work (Windows 11 Pro Desktop)

????????? Static IP ??? gw/dns

Имя адаптера "Ethernet"

```
$if = "Ethernet"
Get-NetIPAddress -InterfaceAlias $if -AddressFamily IPv4 -ErrorAction SilentlyContinue |
Remove-NetIPAddress -Confirm:$false
New-NetIPAddress -InterfaceAlias $if -IPAddress 192.168.10.2 -PrefixLength 24
```

Профиль «Частная сеть», чтобы брандмауэр не блокировал

```
Set-NetConnectionProfile -InterfaceAlias $if -NetworkCategory Private
```

????????????? ? VM

Статический маршрут в сеть 192.168.122.0/24
IP Astra Хоста - 192.168.10.1
Сеть Astra BM - 192.168.122.0

```
route -p add 192.168.122.0 mask 255.255.255.0 192.168.10.1 metric 1
```

Удаление маршрута

```
route delete 192.168.122.0 mask 255.255.255.0 192.168.10.1
```

Разрешение входящего ping на Win11

```
New-NetFirewallRule -DisplayName "Allow ICMPv4-In" -Protocol ICMPv4 -IcmpType 8 -Direction
Inbound -Action Allow -Profile Any
```

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```
route print -4 | findstr 192.168.122


ping 192.168.10.1
ping 192.168.122.1
ping 192.168.122.2
```

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