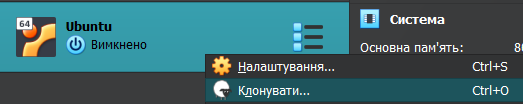
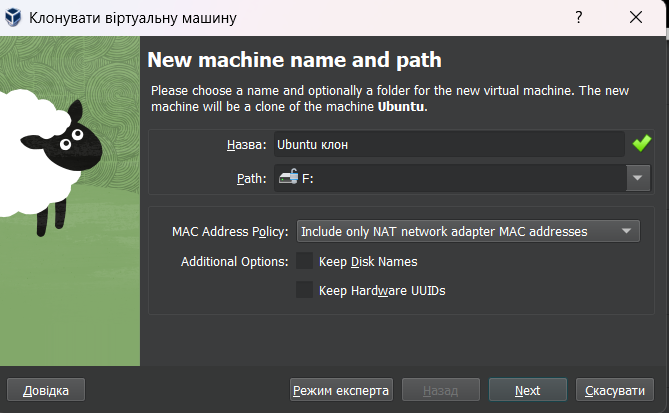
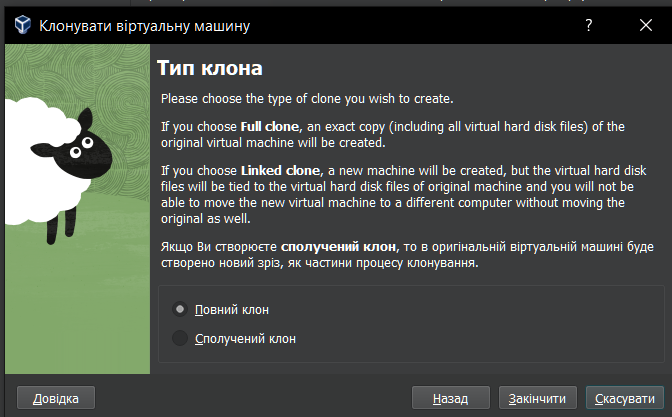
**Work-case 3   
1-2 робила студентка Андрущик Поліна**1. In the working environment of the virtual machine Virtual Box, VMWare Workstation (or another of your choice), you must perform:

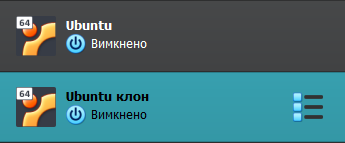
- Cloning of your virtual working OS (Work-case 2). How can this be done? Demonstrate all stages;

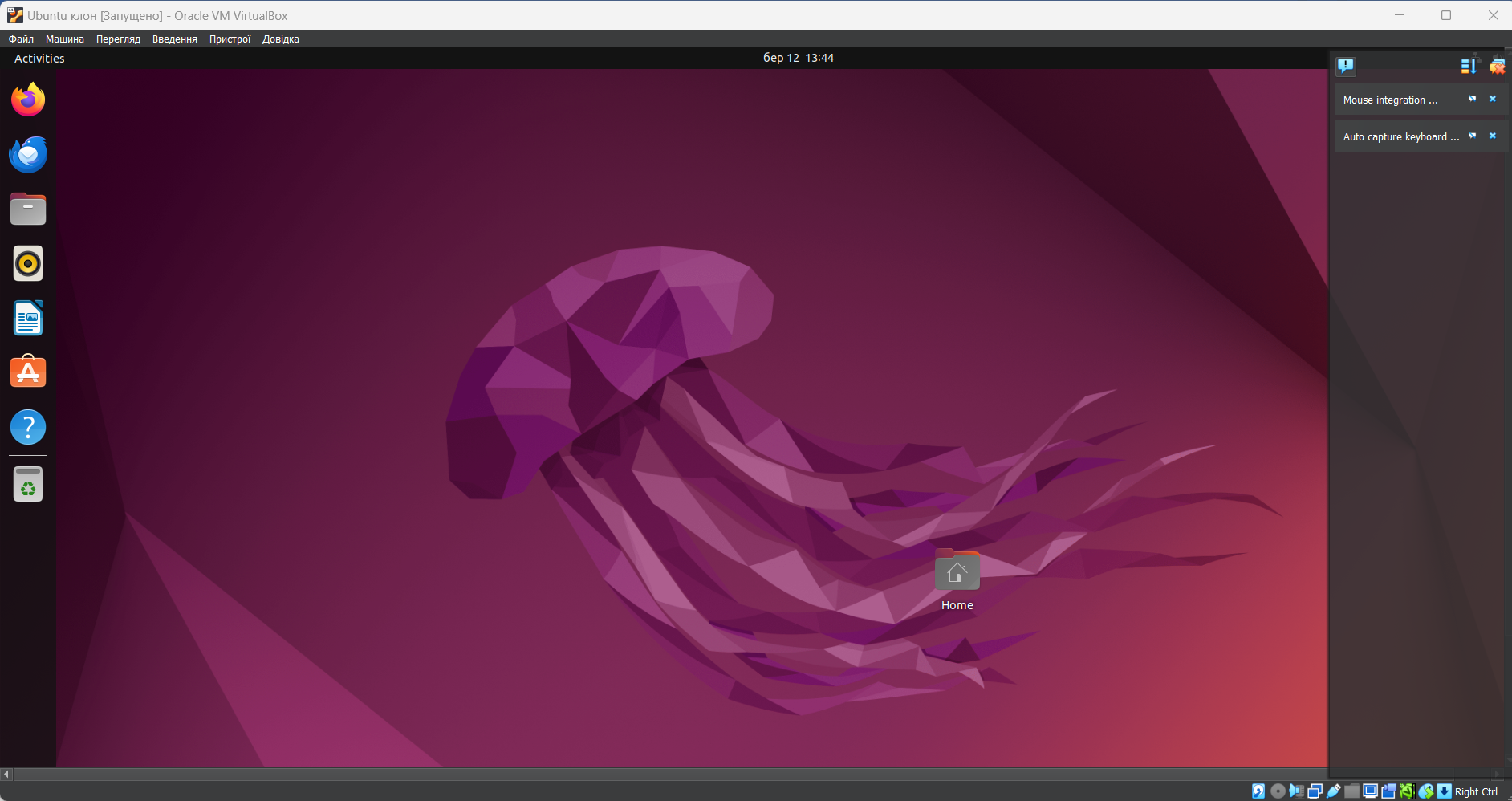
- It may be necessary to transfer (clone) the OS to another virtual environment. What are the steps to export your virtual working OS?











To export a virtual working OS, you need to create a backup copy of all important installation files and settings, and export the virtual disk in a format compatible with the chosen virtualization platform.

2. During operation, one working virtual machine can interact with another. For this, it is necessary to deploy a network between them. Describe what types of organization of network connections are supported in the environment of virtual machines, what is the peculiarity of each of them:

- Network address translation (NAT);

- Network bridge (Bridged);

- Virtual host adapter (Host-only);

- Internal network (Internal Network).  
  
**Network Address Translation (NAT):**

Feature: Virtual machines have access to the external network through the IP address of the host. External network devices cannot directly access virtual machines, but they can interact with external network resources.

**Network bridge (Bridged):**

Feature: Virtual machines get their own IP addresses from the network, so they can communicate with other devices on the network that are outside the virtual environment that also have access to the virtual machines.

**Virtual host adapter (Host-only):**

Feature: Virtual machines can interact only with the host system and other virtual machines that are in the same virtual network. They do not have access to external network resources such as the Internet.

**Internal network (Internal Network):**

Feature: Virtual machines can interact only with each other and do not have access to external network resources or to the host system. Internal traffic occurs only between virtual machines that belong to this internal network.

**Робив Бурбан Данило**

3. Deploy a network between your production OS and its clone (task 1):

- Demonstrate basic commands for configuring OS network settings, explain what they do.

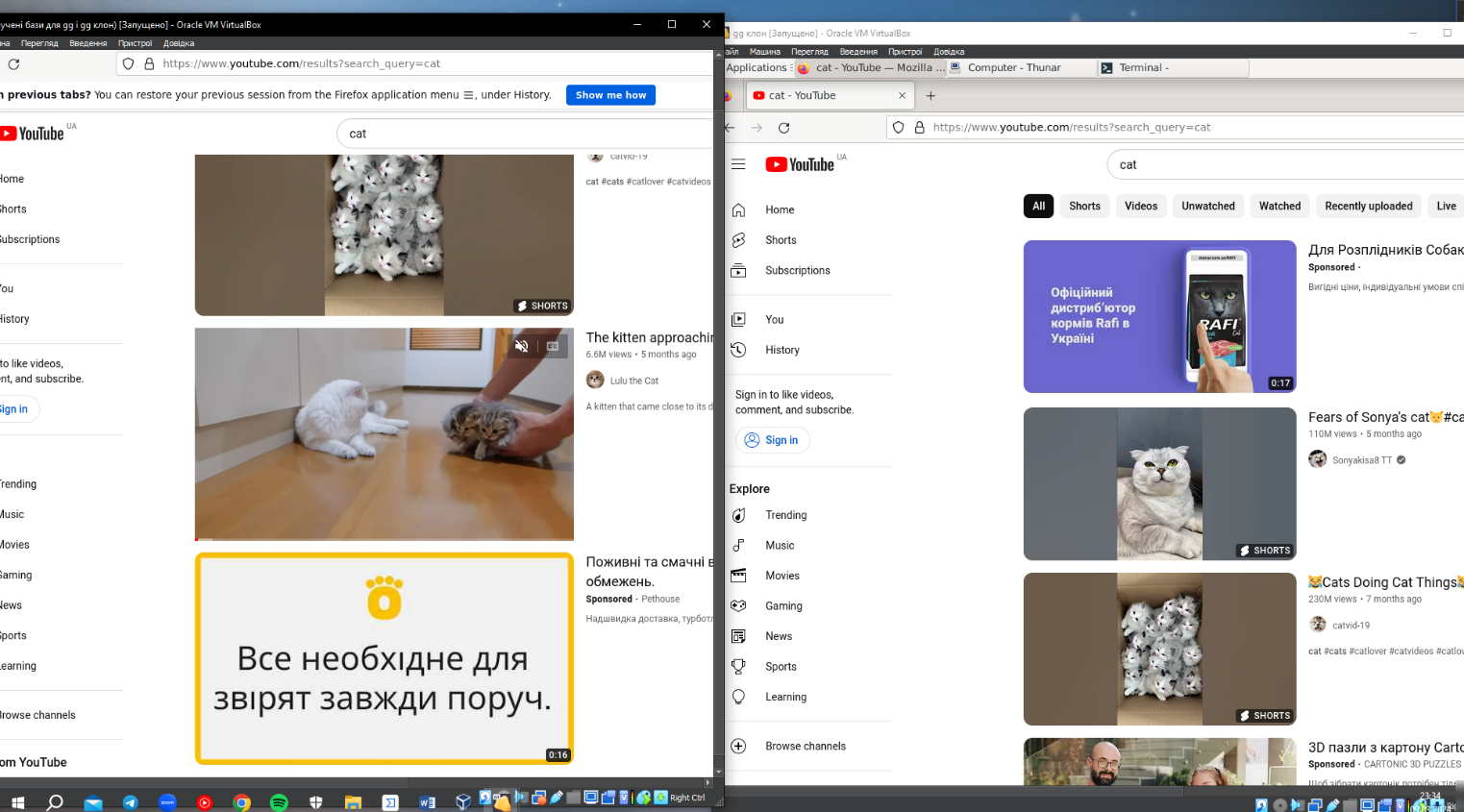
- Both operating systems must have access to the Internet. Open your browser and watch any video on youtube

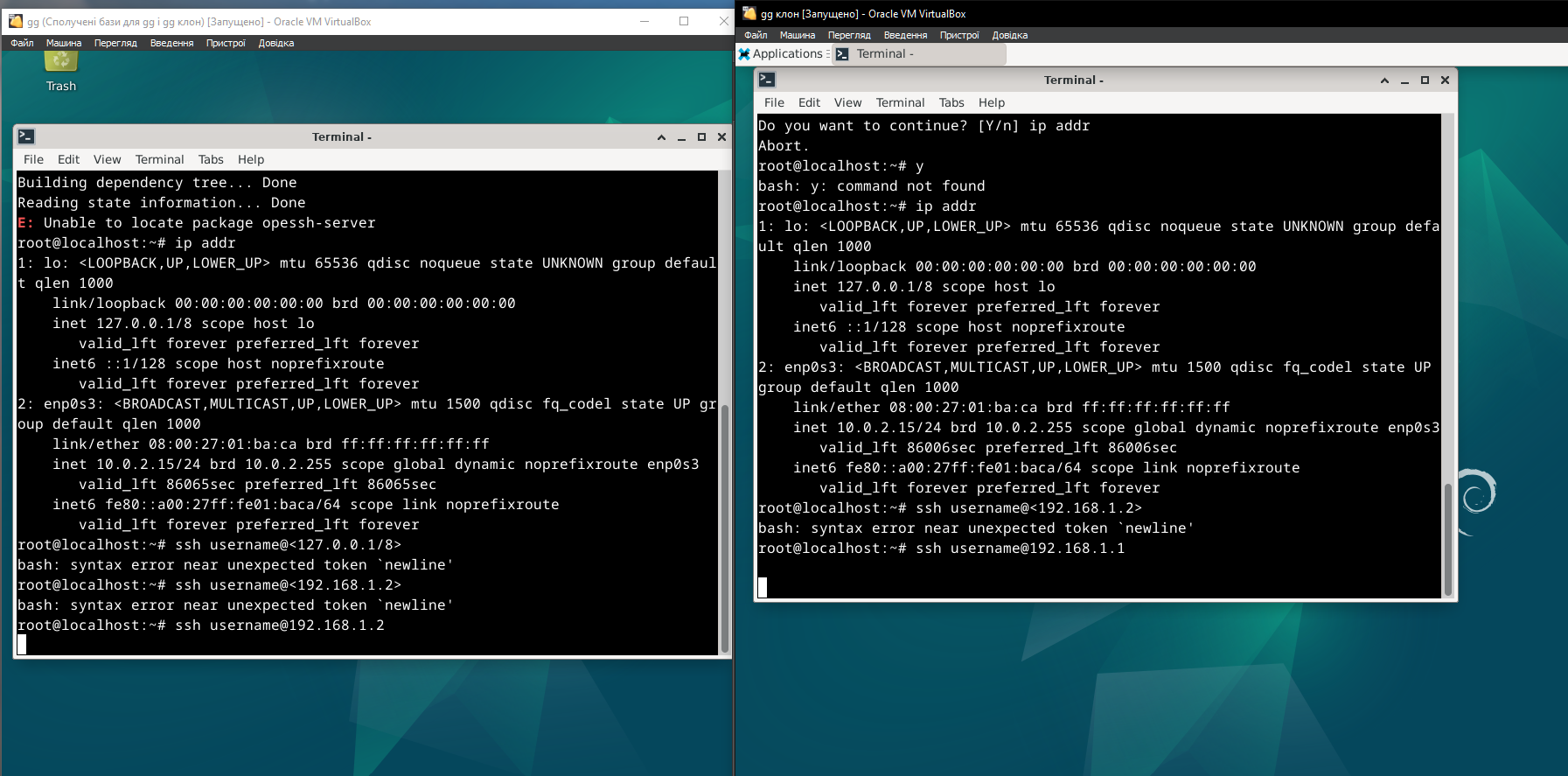
- Configure and demonstrate messaging between two OSes over a local network. What commands should be entered in the terminal?

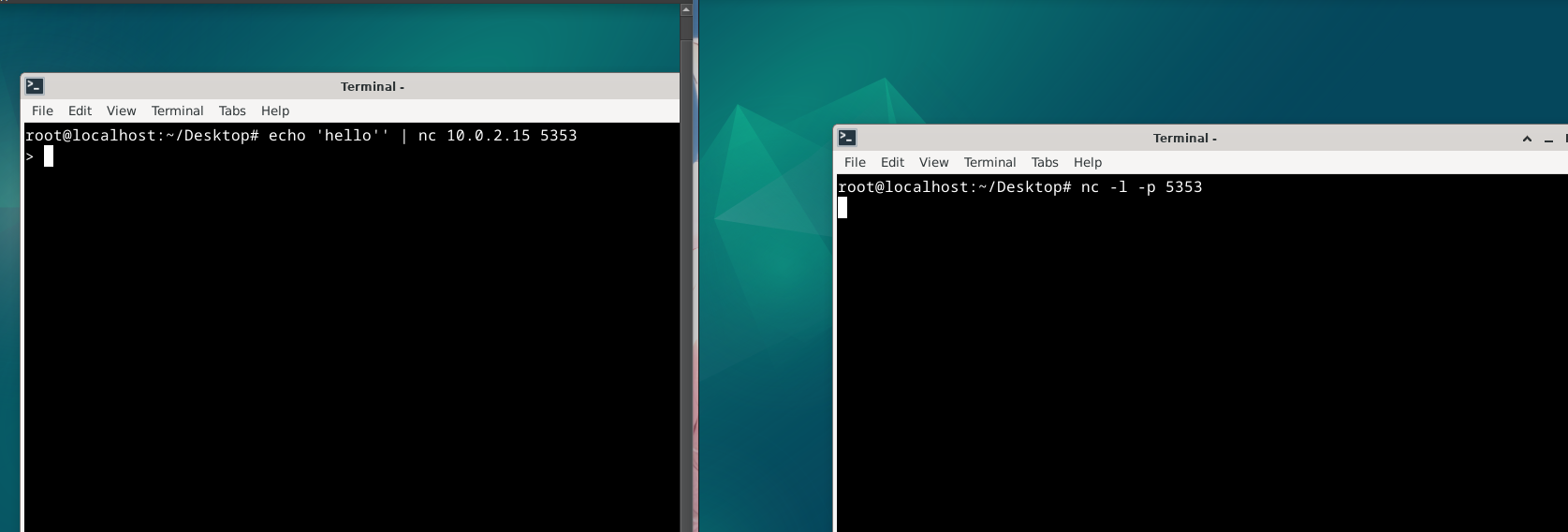
- Configure shared network folder for both OS. Try copying the files from this directory to the user's home directory (virtual desktop OS) and to the desktop (virtual desktop OS clone).

4. How can you organize the exchange of information between your main OS (eg Windows) and virtual OSes? Copy any audio file from your main OS to the desktop of the virtual OS and its clone. How to do the reverse action when you need to copy a document from the virtual OS desktop to your main desktop OS?  
***3.1***

|  |  |
| --- | --- |
| **ip addr show** | Перегляд інформації про мережеві інтерфейси |
| **sudo ip addr add 192.168.1.2/24 dev eth0** | Налаштування IP-адреси та маски підмережі |
| **sudo ip link set eth0 up** | Активація мережевого інтерфейсу |
| **sudo ip link set eth0 down** | Деактивація мережевого інтерфейсу |
| **sudo ip route add default via 192.168.1.1** | Зміна конфігурації маршрутизації (шлюз за умовчанням) |

**3.2**





Start the virtual machine in VirtualBox.

In the virtual menu, select "Devices" -> "Insert Guest Additions CD Image...".

Within the guest OS, open the CD drive and install Guest Additions.

Reboot the virtual machine.

Create a shared folder in the virtual machine settings (Settings -> Shared Folders).

Start the virtual machine, and the shared folder will be available in the guest OS at the path, for example, /media/sf\_Folder.

