Starting with Linux, homework

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1 Homework, part 1

Ubuntu Installation and Configuration under VirtualBox

1.1 Download and Installation

From website

```
https://www.virtualbox.org/wiki/Downloads
```

Virtualbox has been downloaded.

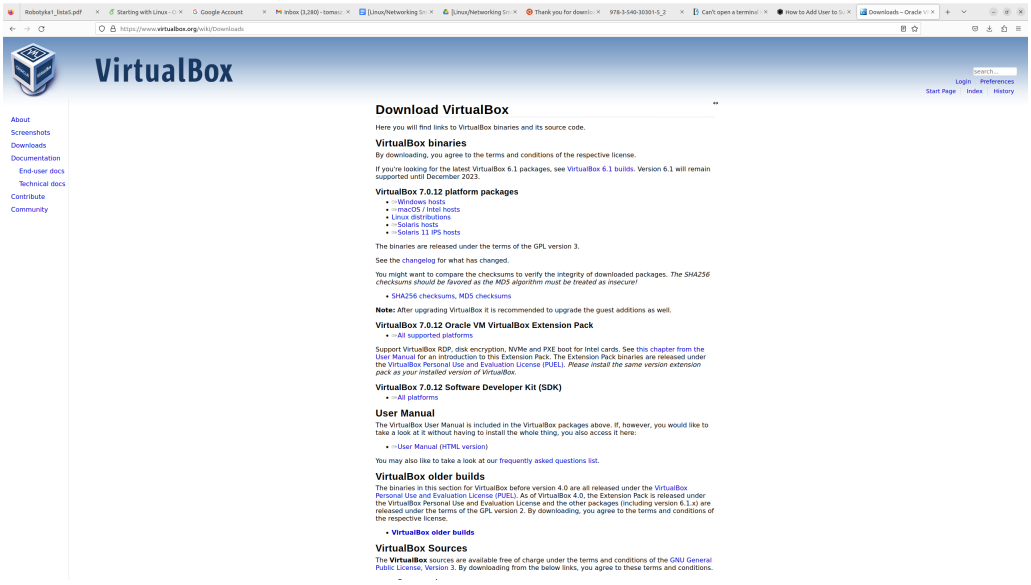

Figure 1: Website with VirtualBox installation files

1.2 Configuration

After sucessfull installation of VirtualBox, following steps has been taken.

1.2.1 Creating Host-Only Network

In

```
File -> Tools -> NetworkManager
```

in VirtualBox, Host-Only Network Adapter has been created.

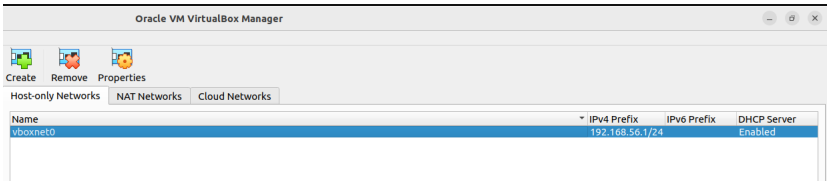

Figure 2: Creation of Host-Only Network

1.2.2 Creation of Virtual Machine

In next step, a new virtual machine has been created. Following configuration steps have been taken:

- An optical drive with Ubuntu ISO image has been added,
- A new SATA drive has been created and added to machine,
- Audio has been disabled,
- For each real network interface in host system a corresponding interface in guest system have been created. Furthermore a host-only adapter has been created. (3 network adapters created in virtualbox)

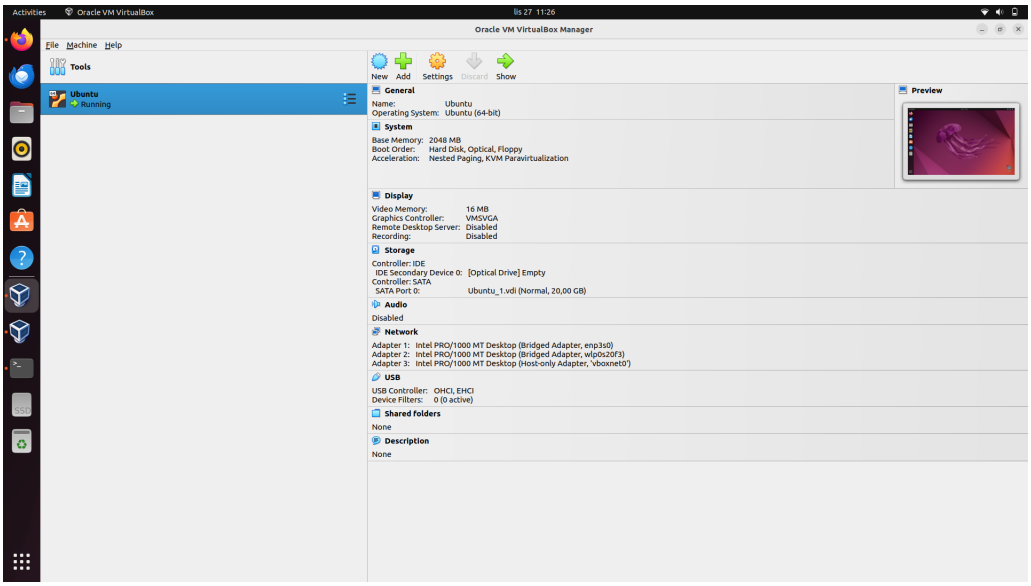

Figure 3: Configuration of Virtual Machine

1.2.3 Ubuntu Image Downloading

From Ubuntu website an Ubuntu 22.04 LTS image has been downloaded.

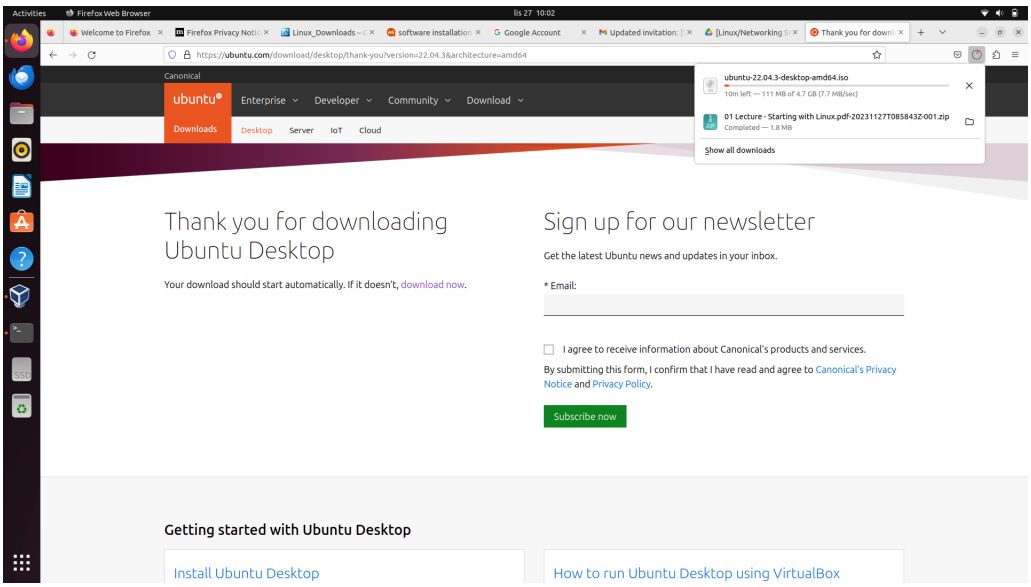

Figure 4: Ubuntu Image Download

1.2.4 Network configuration on guest system

- With ping 8.8.8.8 without specyfing network iterface checked guest system internet connection
- With ip a listed all network interfaces on guest system

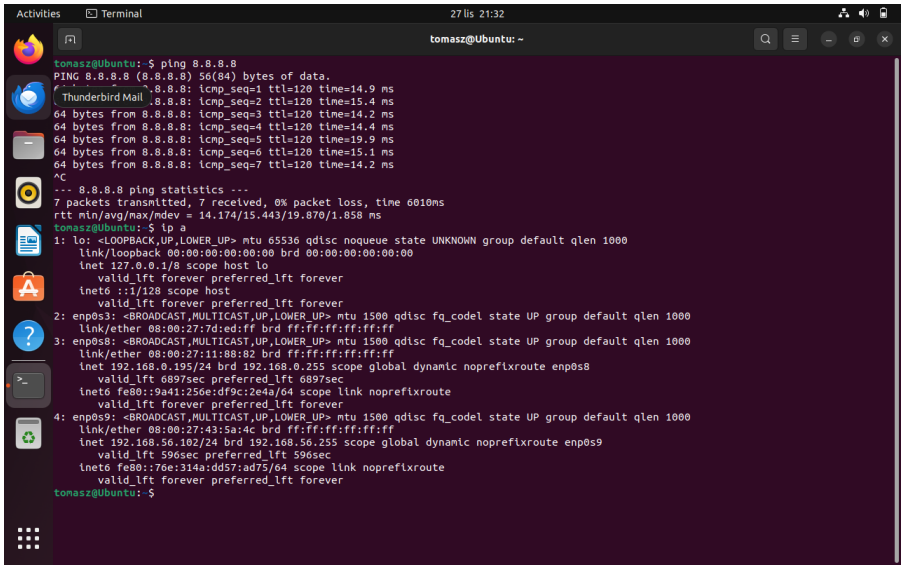

Figure 5: Checking internet connection and network interfaces on guest system system

After that, each network interface has been checked.

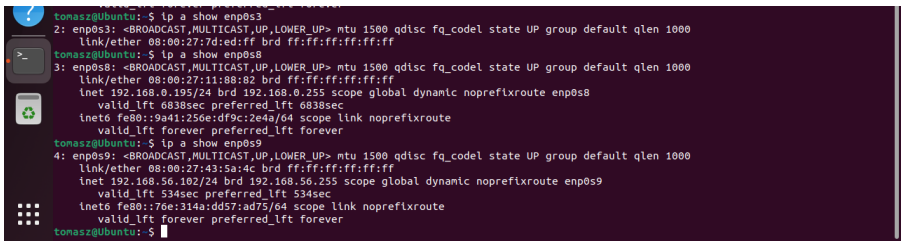

Figure 6: Checking network interfaces

- enp03s- network iterface not connected to internet (on host system, ethernet input)
- enp08s- network interface connected to network 192.168.0.0/24 with ip address 192.168.0.195
- enp09s- network interface (host-only adapter), connected to network 192.168.56.0/24 with ip address 192.168.56.102

After that, enp0s9 network interface has been checked. When properly set, enp09s interface:

- not able to connect to remote host (tested 8.8.8.8),
- is able to connect to host 192.168.56.1

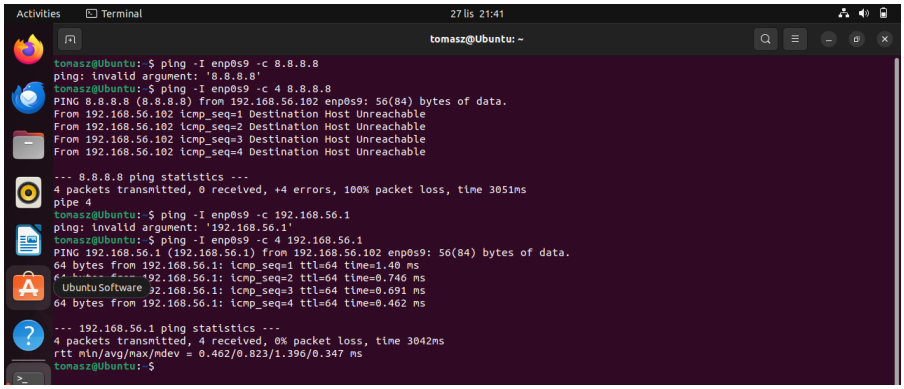

Figure 7: Checking enp0s9 interface

Results:

- sucessfully connecting to host 192.168.56.1
- unsucessfully connecting to host 8.8.8.8

Network interfaces have sucessufully been configured on guest system.

2 Homework, part 2

In this part, task was to create two users and two groups, with specified requirements.

2.1 Groups creation

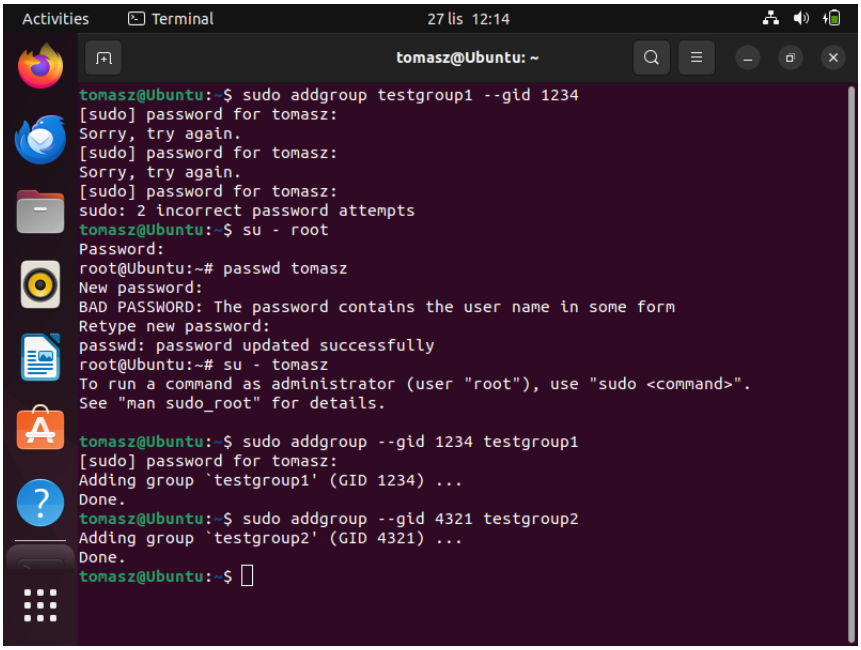

Figure 8: Terminal with commands for creating groups with specified GID

2.2 Users creation

Requirements:

- ”testuser”
  - Create user ”testuser,
  - Automatically create home directory
  - UID 1234
  - GID 1234
  - Default shell: /bin/bash
  - Used command:

```
sudo useradd --gid 1234 --uid 1234 testuser -m --shell /bin/bash
```

  - After creation, both username and home directory should be changed
  - Used command:

```
sudo usermod -l testuser1 -d /home/testuser1 -m testuser
```

For ”testuser2”:

- ”testuser2”
  - Create user ”testuser2”,
  - Automatically create home directory
  - UID 4321
  - GID 4321
  - Default shell: /bin/bash

– Used command:

```
sudo useradd --gid 4321 --uid 4321 testuser2 -m --shell /bin/bash
```

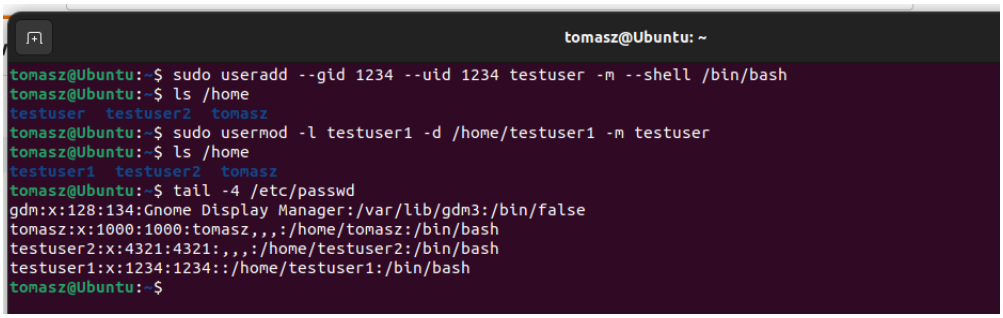

Figure 9: Terminal with commands for creating user "testuser". After creation of "testuser" it's name and home directory has been changed.