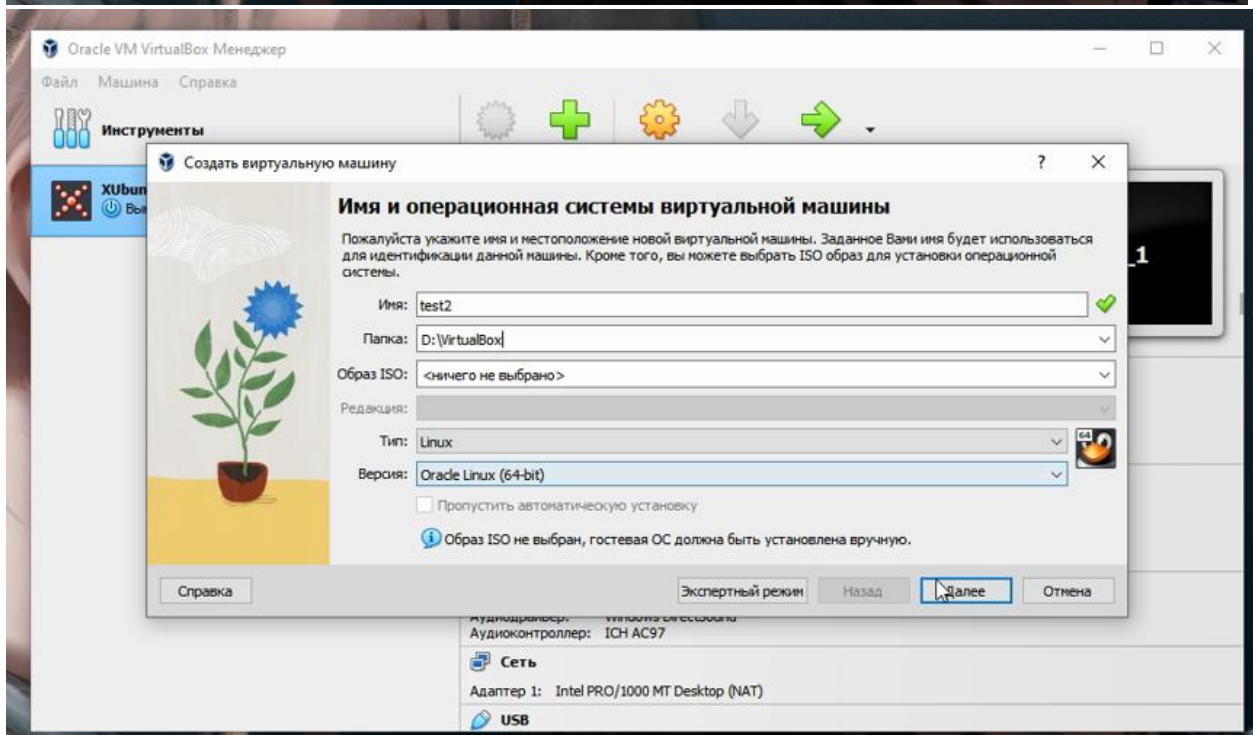
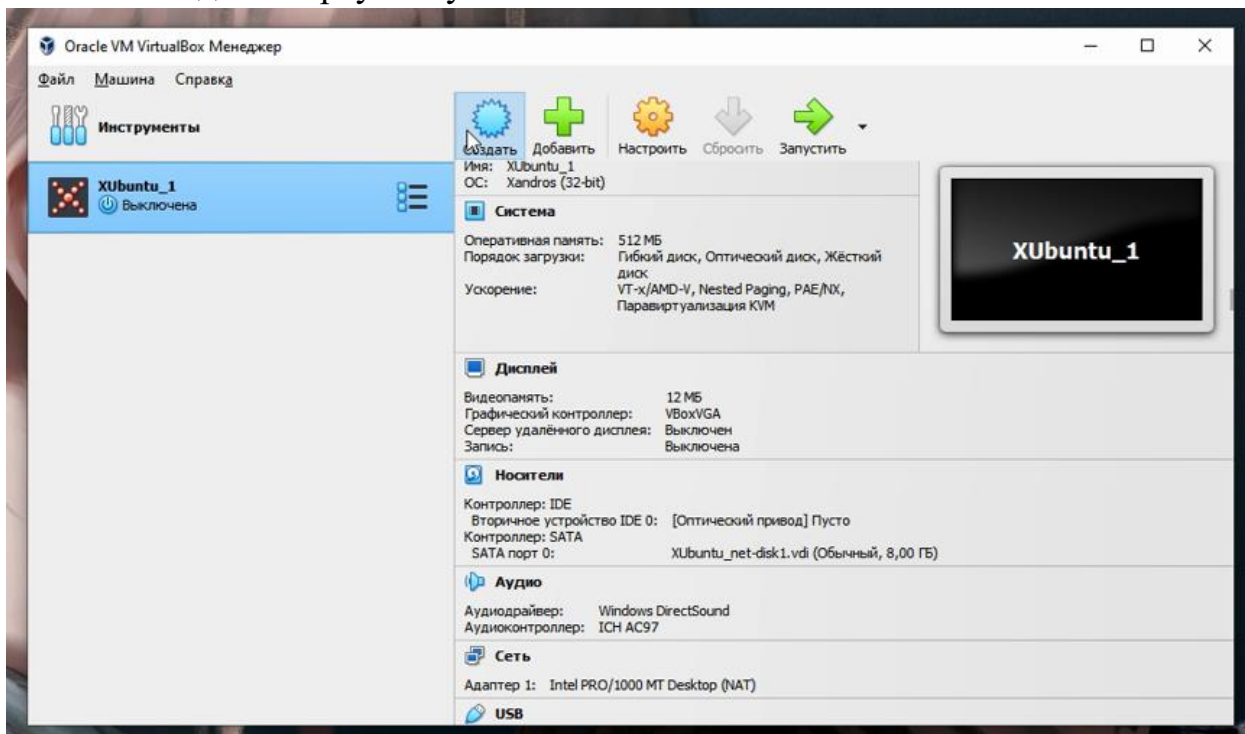


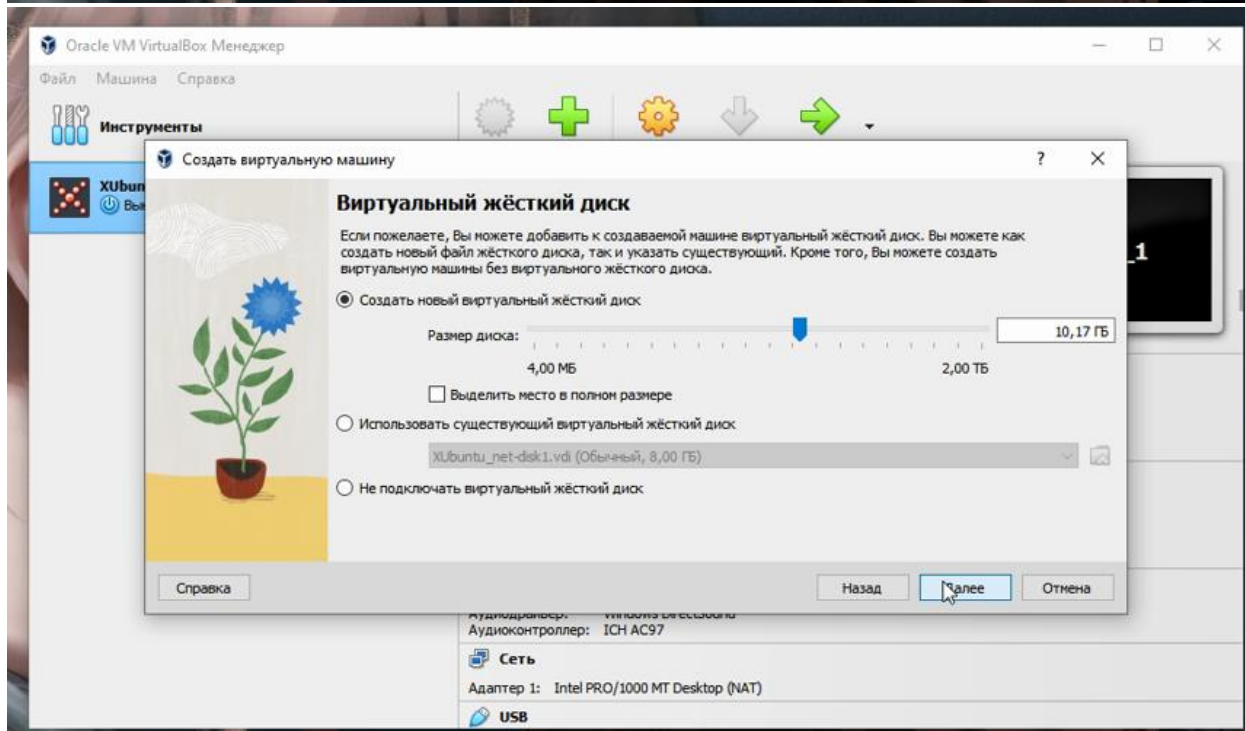
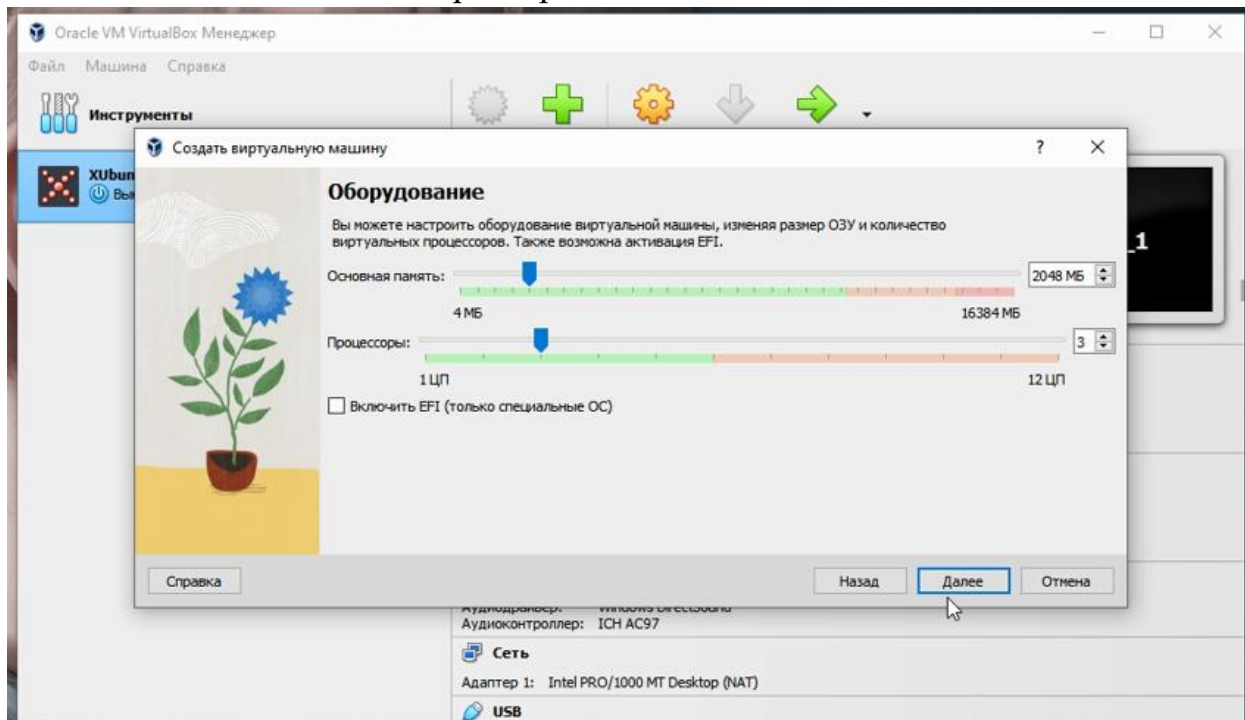
Лабораторная работа №2.

Видео с выполнением загружено на YouTube по [ссылке](#)

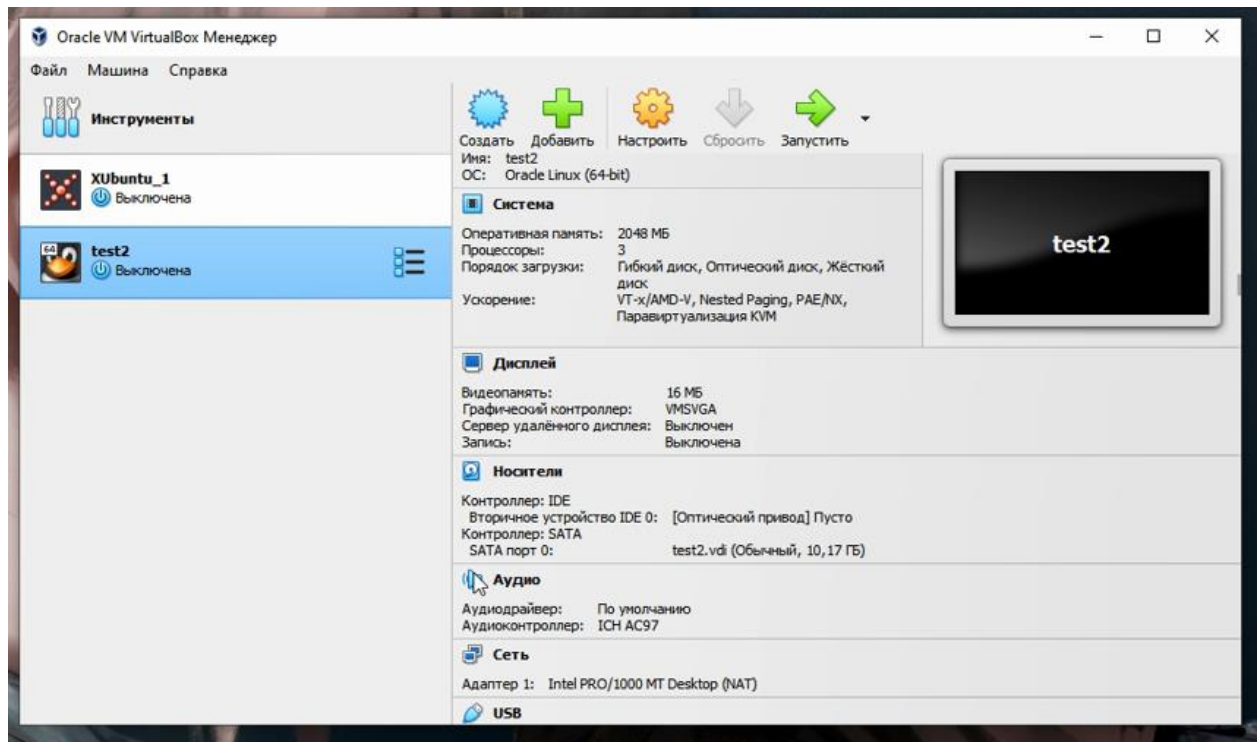
1. Создаём виртуальную Linux:



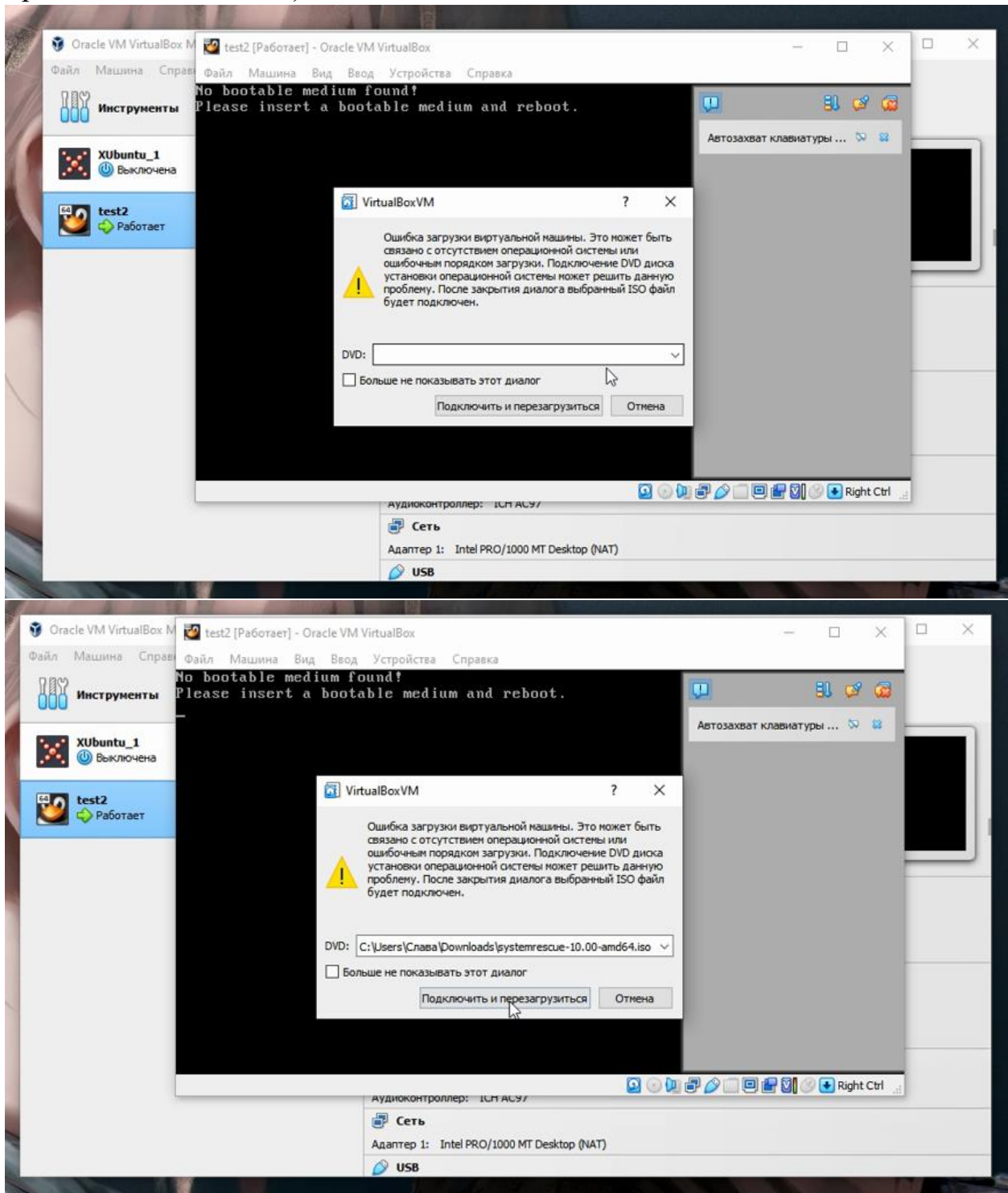
Указываем необходимые характеристики:



Итог:

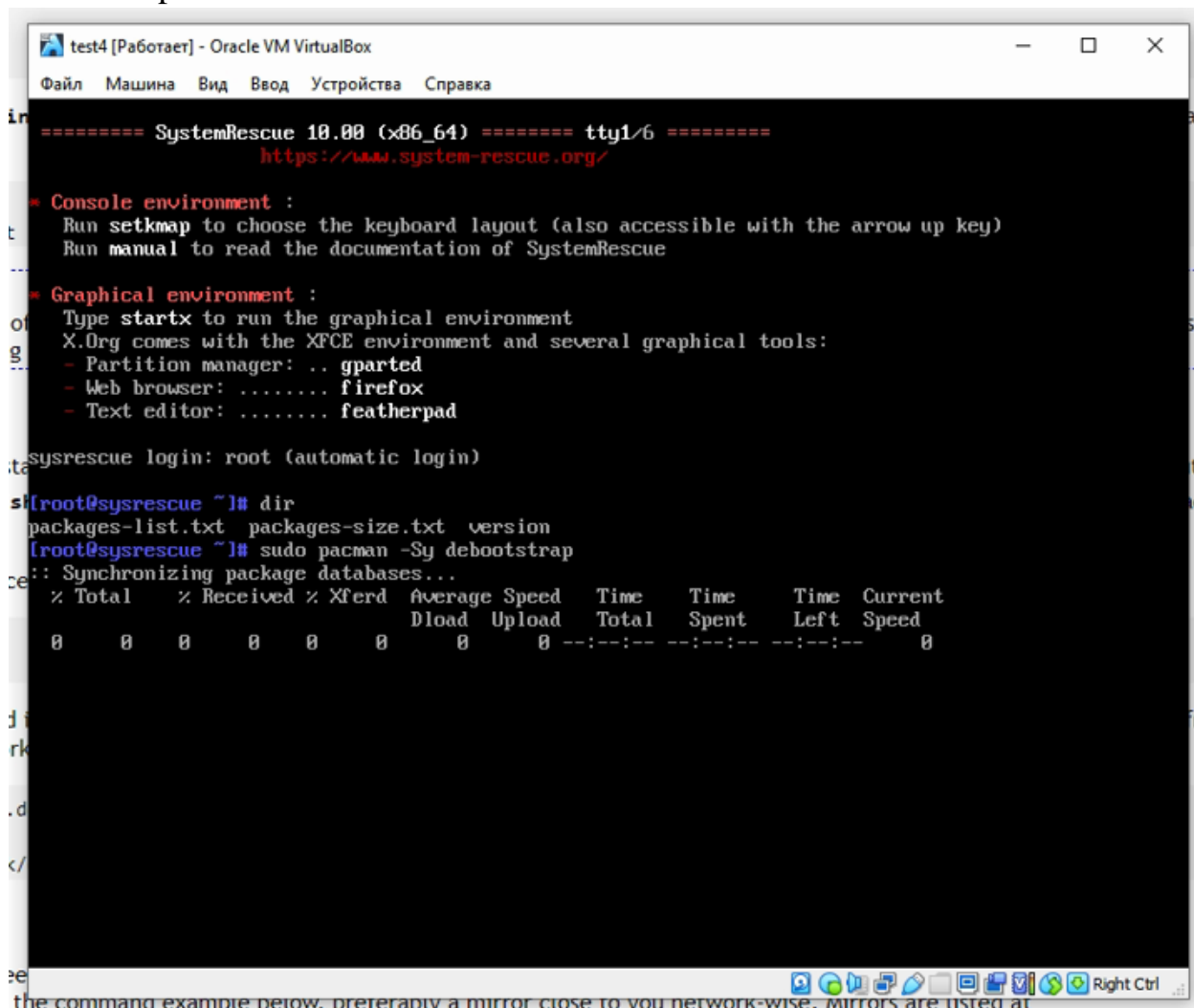


2. При первом запуске указываем путь к ISO-файлу (можно было также указать и при создании машины)



3. Устанавливаем Linux

С помощью команды `sudo pacman -Sy debootstrap` устанавливаем библиотеку `debootstrap`



```
test4 [Работает] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка

===== SystemRescue 10.08 (x86_64) ===== tty1/6 =====
https://www.system-rescue.org/

• Console environment :
  Run setkmap to choose the keyboard layout (also accessible with the arrow up key)
  Run manual to read the documentation of SystemRescue

• Graphical environment :
  Type startx to run the graphical environment
  X.Org comes with the XFCE environment and several graphical tools:
  - Partition manager: .. gparted
  - Web browser: ..... firefox
  - Text editor: ..... featherpad

sysrescue login: root (automatic login)

[root@sysrescue ~]# dir
packages-list.txt  packages-size.txt  version
[root@sysrescue ~]# sudo pacman -Sy debootstrap
:: Synchronizing package databases...
 % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed

  0     0    0     0    0     0      0      0  --:--:-- --:--:-- --:--:--     0

the command example below, preferably a mirror close to you network-wise. Mirrors are listed at
```

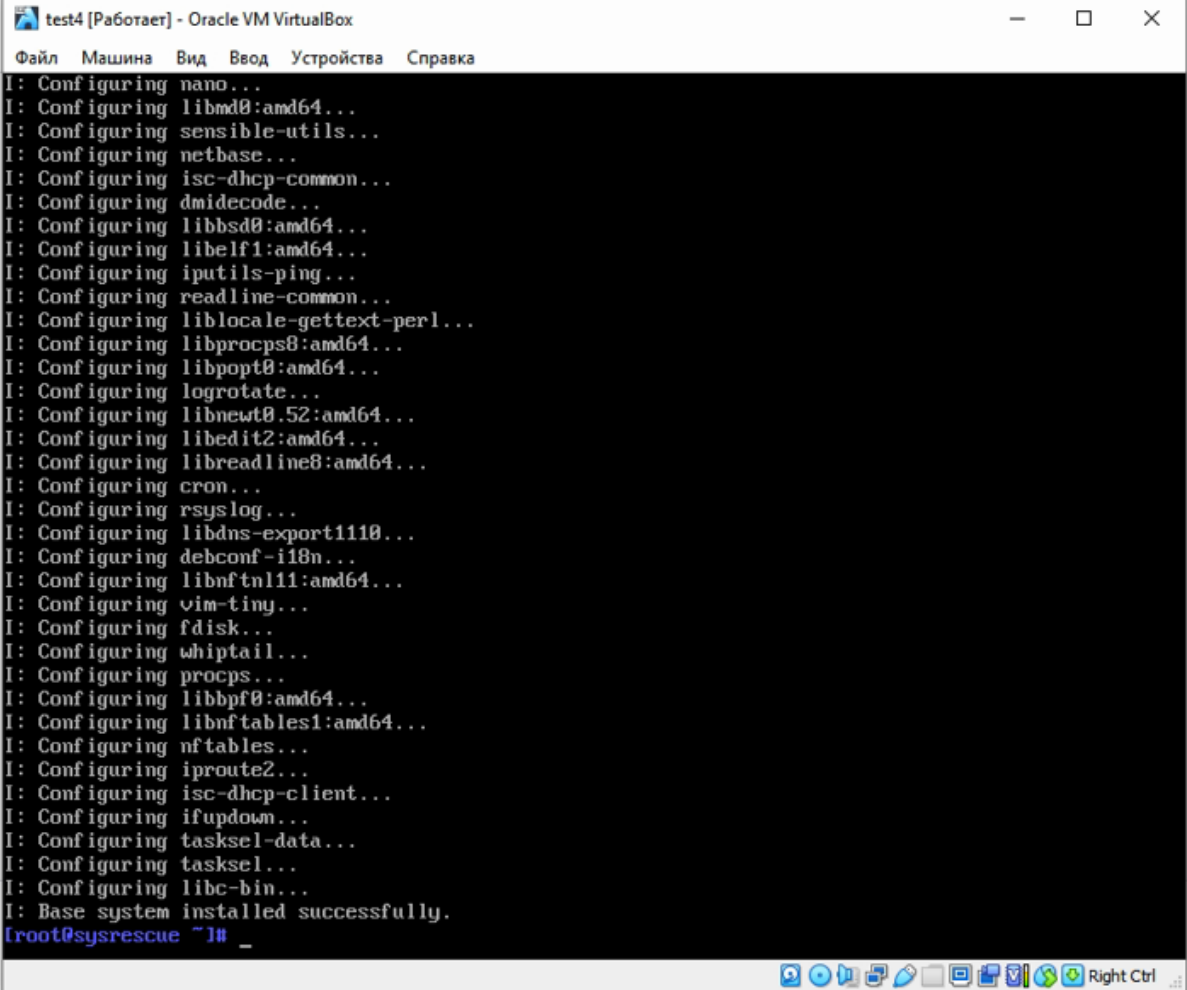
Мной была выбрана stable система. Для её установки создаём папку через mkdir stable-chroot и проводим установку debootstrap stable /stable-chroot <http://deb.debian.org/debian/>

```
test4 [Работаer] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка
100  155k  100  155k  0  0  225k  0  --:--:--  --:--:--  --:--:--  225k
% Total  % Received % Xferd  Average Speed  Time  Time  Time  Current
      Dload  Upload    Total     Spent    Left     Speed
100 1746k  100 1746k  0  0 1605k  0  0:00:01  0:00:01  --:--:-- 1606k
% Total  % Received % Xferd  Average Speed  Time  Time  Time  Current
      Dload  Upload    Total     Spent    Left     Speed
100 7445k  100 7445k  0  0 3238k  0  0:00:02  0:00:02  --:--:-- 3237k
resolving dependencies...
looking for conflicting packages...

Packages (1) debootstrap-1.0.128-1
Total Download Size:  0.03 MiB
Total Installed Size: 0.19 MiB

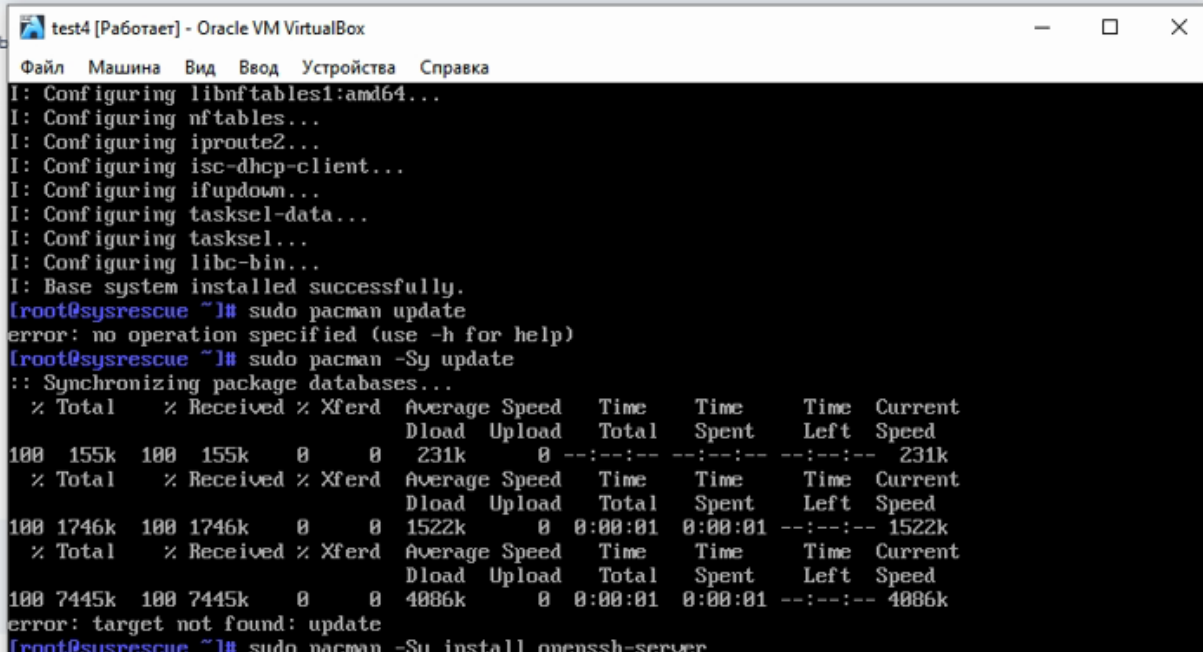
:: Proceed with installation? [Y/n] Y
:: Retrieving packages...
% Total  % Received % Xferd  Average Speed  Time  Time  Time  Current
      Dload  Upload    Total     Spent    Left     Speed
100 36011  100 36011  0  0 74169  0  --:--:--  --:--:--  --:--:-- 74249
(1/1) checking keys in keyring [#####] 100%
(1/1) checking package integrity [#####] 100%
(1/1) loading package files [#####] 100%
(1/1) checking for file conflicts [#####] 100%
:: Processing package changes...
(1/1) installing debootstrap [#####] 100%
Optional dependencies for debootstrap
gnupg: check release signatures [installed]
debian-archive-keyring: check release signatures for Debian
debian-ports-archive-keyring: check release signatures for Debian Ports
ubuntu-keyring: check release signatures for Ubuntu
:: Running post-transaction hooks...
(1/1) Arming ConditionNeedsUpdate...
[root@sysrescue ~]# mkdir stable-chroot
[root@sysrescue ~]# dir
packages-list.txt  packages-size.txt  stable-chroot  version
[root@sysrescue ~]# debootstrap stable /stable-chroot http://deb.debian.org/debian
```


Дожидаемся успешного завершения



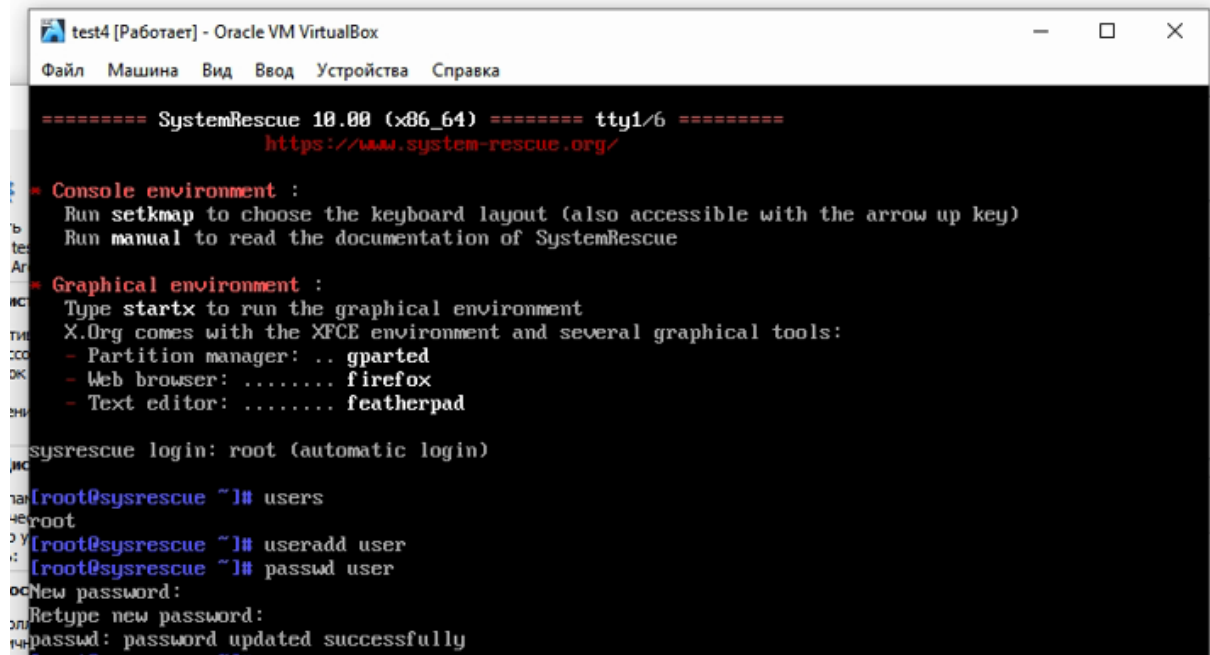
```
test4 [Работаer] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка
I: Configuring nano...
I: Configuring libmd:amd64...
I: Configuring sensible-utils...
I: Configuring netbase...
I: Configuring isc-dhcp-common...
I: Configuring dmidecode...
I: Configuring libbsd:amd64...
I: Configuring libelf:amd64...
I: Configuring iputils-ping...
I: Configuring readline-common...
I: Configuring liblocale-gettext-perl...
I: Configuring libprocps:amd64...
I: Configuring libpopt:amd64...
I: Configuring logrotate...
I: Configuring libnewt0.52:amd64...
I: Configuring libedit2:amd64...
I: Configuring libreadline8:amd64...
I: Configuring cron...
I: Configuring rsyslog...
I: Configuring libdns-export1110...
I: Configuring debconf-i18n...
I: Configuring libnftnl11:amd64...
I: Configuring vim-tiny...
I: Configuring fdisk...
I: Configuring whiptail...
I: Configuring procps...
I: Configuring libbpf0:amd64...
I: Configuring libnftables1:amd64...
I: Configuring nftables...
I: Configuring iproute2...
I: Configuring isc-dhcp-client...
I: Configuring ifupdown...
I: Configuring taskel-data...
I: Configuring taskel...
I: Configuring libc-bin...
I: Base system installed successfully.
[root@sysrescue ~]# _
```

4. Установка sshd сервера выполняется через команду `sudo pacman -Sy install opessh-server`



```
test4 [Работаer] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка
I: Configuring libnftables1:amd64...
I: Configuring nftables...
I: Configuring iproute2...
I: Configuring isc-dhcp-client...
I: Configuring ifupdown...
I: Configuring taskel-data...
I: Configuring taskel...
I: Configuring libc-bin...
I: Base system installed successfully.
[root@sysrescue ~]# sudo pacman update
error: no operation specified (use -h for help)
[root@sysrescue ~]# sudo pacman -Sy update
:: Synchronizing package databases...
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 155k  100 155k    0    0  231k      0 --:--:-- --:--:-- --:--:-- 231k
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 1746k  100 1746k    0    0 1522k      0 0:00:01 0:00:01 --:--:-- 1522k
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 7445k  100 7445k    0    0 4086k      0 0:00:01 0:00:01 --:--:-- 4086k
error: target not found: update
[root@sysrescue ~]# sudo pacman -Sy install openssh-server
```

5. Добавляем пользователя user с паролем 123456



```
test4 [Работает] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка

===== SystemRescue 10.00 (x86_64) ===== tty1/6 =====
https://www.system-rescue.org/

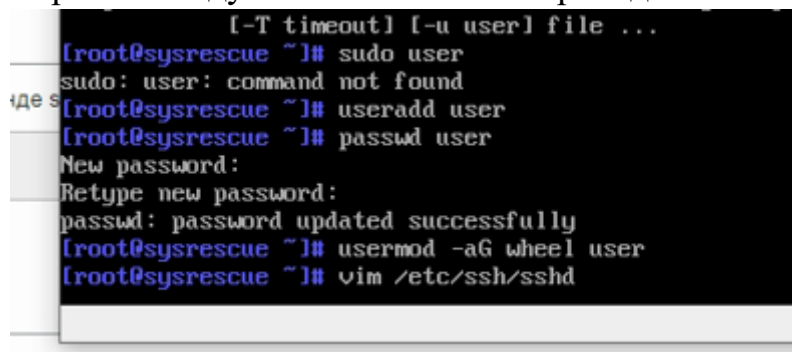
• Console environment :
  Run setkmap to choose the keyboard layout (also accessible with the arrow up key)
  Run manual to read the documentation of SystemRescue

• Graphical environment :
  Type startx to run the graphical environment
  X.Org comes with the XFCE environment and several graphical tools:
  - Partition manager: .. gparted
  - Web browser: ..... firefox
  - Text editor: ..... featherpad

sysrescue login: root (automatic login)

[root@sysrescue ~]# users
root
[root@sysrescue ~]# useradd user
[root@sysrescue ~]# passwd user
New password:
Retype new password:
passwd: password updated successfully
```

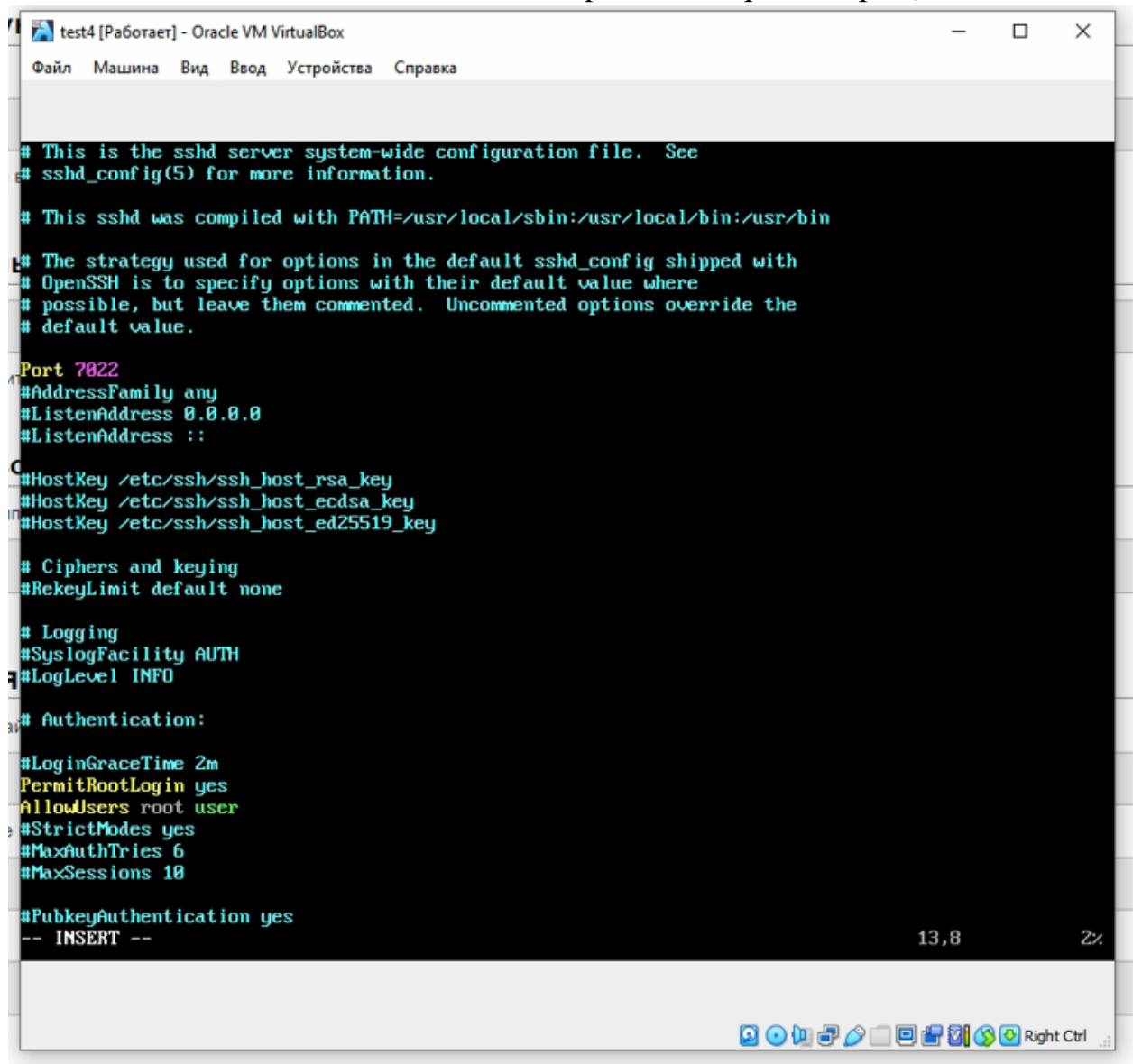
Через команду `vim /etc/ssh/sshd` переходим в config sshd сервера



```
[-T timeout] [-u user] file ...

[root@sysrescue ~]# sudo user
sudo: user: command not found
[root@sysrescue ~]# useradd user
[root@sysrescue ~]# passwd user
New password:
Retype new password:
passwd: password updated successfully
[root@sysrescue ~]# usermod -aG wheel user
[root@sysrescue ~]# vim /etc/ssh/sshd
```


Вносим необходимые изменения: добавляем пользователя user для доступа к серверу и порт 7022 (пробросить порт маршрутизатора не является возможным, так как эта возможность ограничена провайдером)



```
# This is the sshd server system-wide configuration file. See
# sshd_config(5) for more information.

# This sshd was compiled with PATH=/usr/local/sbin:/usr/local/bin:/usr/bin

# The strategy used for options in the default sshd_config shipped with
# OpenSSH is to specify options with their default value where
# possible, but leave them commented. Uncommented options override the
# default value.

Port 7022
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

# Ciphers and keying
#RekeyLimit default none

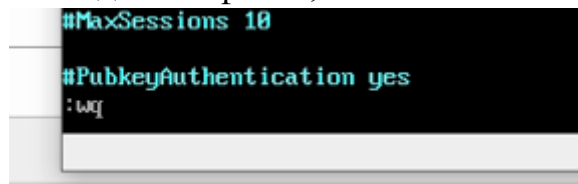
# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
PermitRootLogin yes
AllowUsers root user
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

#PubkeyAuthentication yes
-- INSERT --
```

Выходим из файла, нажав ESC и введя команду :wq (сохранить и выйти)



```
#MaxSessions 10

#PubkeyAuthentication yes
:wq
```

6. Выполняем перезагрузку сервера для внесения изменений и проверяем статус

```
7 etc/ssh/sshd_config: 1112) state written
[root@sysrescue ~]# sudo systemctl restart sshd
[root@sysrescue ~]# sudo systemctl status sshd
● sshd.service - OpenSSH Daemon
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; preset: disabled)
   Active: active (running) since Fri 2023-05-19 10:34:34 UTC; 5s ago
     Main PID: 902 (sshd)
       Tasks: 1 (limit: 2286)
      Memory: 1.1M
         CPU: 5ms
    CGroup: /system.slice/ssh.service
            └─902 "sshd: /usr/bin/sshd -D [listener] 0 of 10-100 startups"
```