

# **Лаборатория работы №1**

## **Администрирование сетевых подсистем**

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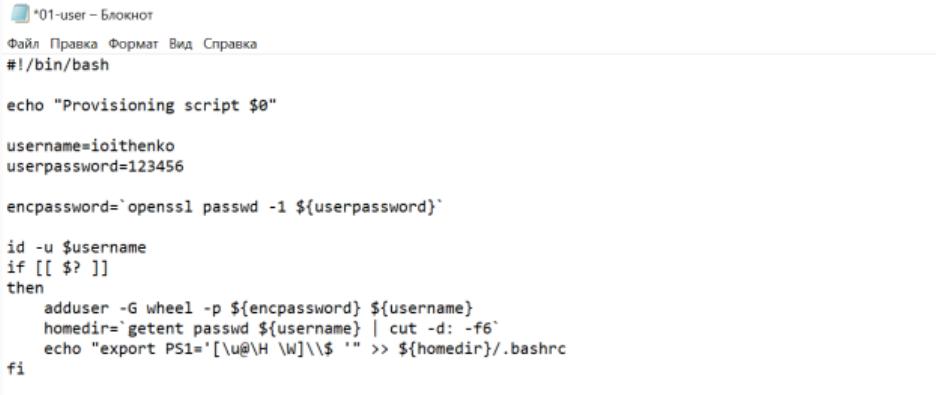
## Цель работы

Целью данной работы является приобретение практических навыков установки Rocky Linux на виртуальную машину с помощью инструмента Vagrant.

# **Выполнение лабораторной работы**

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# Внесение имени пользователя



```
*01-user – Блокнот
Файл Правка Формат Вид Справка
#!/bin/bash

echo "Provisioning script $0"

username=ioithenko
userpassword=123456

encpassword=`openssl passwd -1 ${userpassword}`

id -u $username
if [[ $? ]]
then
    adduser -G wheel -p ${encpassword} ${username}
    homedir=`getent passwd ${username} | cut -d: -f6`
    echo "export PS1='[\u@\H \W]\$\$ '" >> ${homedir}/.bashrc
fi
```

**Рис. 1:** Внесение имени пользователя

# Внесение имени пользователя



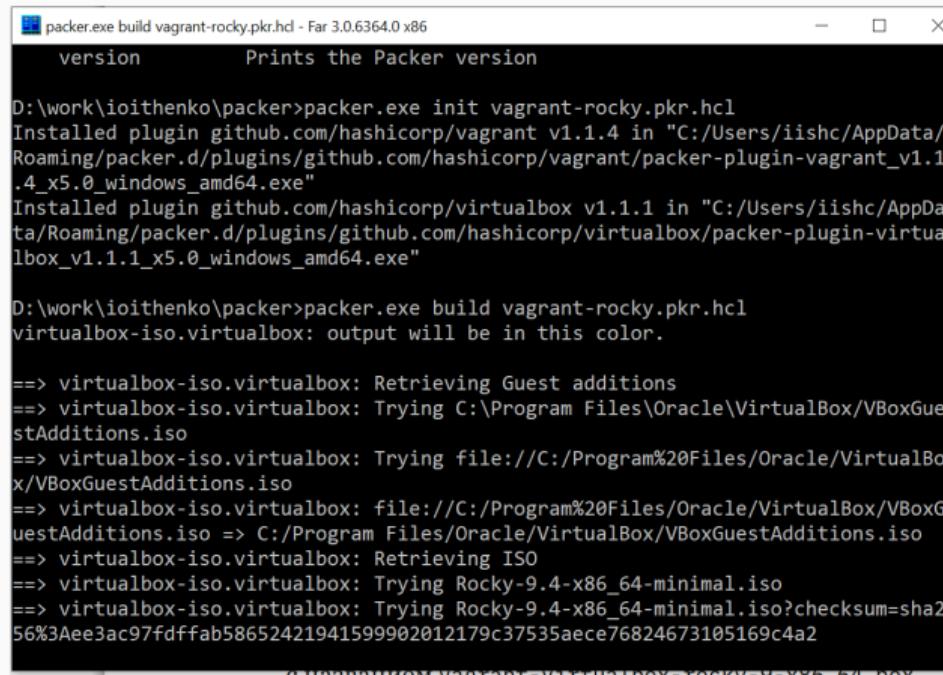
```
*01-hostname - Блокнот
Файл Правка Формат Вид Справка
#!/bin/bash

username=ioithenko

hostnamectl set-hostname "${HOSTNAME%.*}.${username}.net
```

**Рис. 2:** Внесение имени пользователя

# Автоматическая установка



```
packer.exe build vagrant-rocky.pkr.hcl - Far 3.0.6364.0 x86
version          Prints the Packer version

D:\work\ioithenko\packer>packer.exe init vagrant-rocky.pkr.hcl
Installed plugin github.com/hashicorp/vagrant v1.1.4 in "C:/Users/iishc/AppData/Roaming/packer.d/plugins/github.com/hashicorp/vagrant/packer-plugin-vagrant_v1.1.4_x5.0_windows_amd64.exe"
Installed plugin github.com/hashicorp/virtualbox v1.1.1 in "C:/Users/iishc/AppData/Roaming/packer.d/plugins/github.com/hashicorp/virtualbox/packer-plugin-virtualbox_v1.1.1_x5.0_windows_amd64.exe"

D:\work\ioithenko\packer>packer.exe build vagrant-rocky.pkr.hcl
virtualbox-iso.virtualbox: output will be in this color.

=> virtualbox-iso.virtualbox: Retrieving Guest additions
=> virtualbox-iso.virtualbox: Trying C:\Program Files\Oracle\VirtualBox/VBoxGuestAdditions.iso
=> virtualbox-iso.virtualbox: Trying file:///C:/Program%20Files/Oracle/VirtualBox/VBoxGuestAdditions.iso
=> virtualbox-iso.virtualbox: file:///C:/Program%20Files/Oracle/VirtualBox/VBoxGuestAdditions.iso => C:/Program Files/Oracle/VirtualBox/VBoxGuestAdditions.iso
=> virtualbox-iso.virtualbox: Retrieving ISO
=> virtualbox-iso.virtualbox: Trying Rocky-9.4-x86_64-minimal.iso
=> virtualbox-iso.virtualbox: Trying Rocky-9.4-x86_64-minimal.iso?checksum=sha256%3Aee3ac97fdffab58652421941599902012179c37535aece76824673105169c4a2
```

Рис. 3: Автоматическая установка

# box-файл

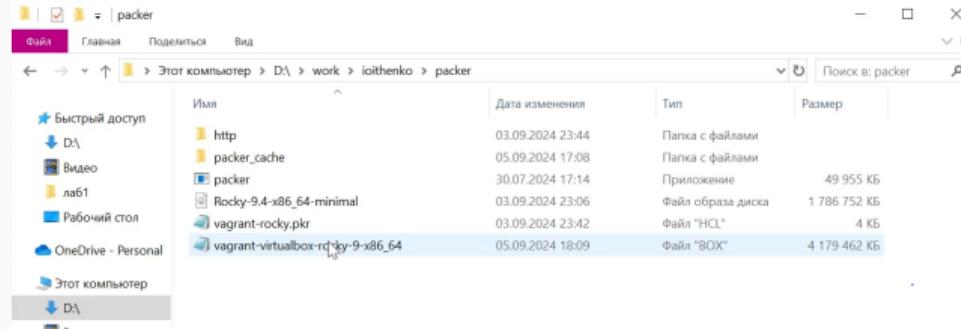


Рис. 4: box-файл

# Запуск ВМ

```
D:\work\ioithenko\packer>vagrant box add rocky9 vagrant-virtualbox-rocky-9-x86_64.box
==> box: Box file was not detected as metadata. Adding it directly...
==> box: Adding box 'rocky9' (v0) for provider:
    box: Unpacking necessary files from: file:///D:/work/ioithenko/packer/vagrant-virtualbox-rocky-9-x86_64.box
    box:
The box you're attempting to add already exists. Remove it before
adding it again or add it with the '--force' flag.

Name: rocky9
Provider: virtualbox
Version: 0

D:\work\ioithenko\packer>vagrant up server
Bringing machine 'server' up with 'virtualbox' provider...
==> server: You assigned a static IP ending in ".1" to this machine.
==> server: This is very often used by the router and can cause the
==> server: network to not work properly. If the network doesn't work
==> server: properly, try changing this IP.
==> server: Preparing master VM for linked clones...
    server: This is a one time operation. Once the master VM is prepared,
    server: it will be used as a base for linked clones, making the creation
    server: of new VMs take milliseconds on a modern system.
==> server: Importing base box 'rocky9',...
==> server: Cloning VM...
==> server: Matching MAC address for NAT networking...
```

Рис. 5: Запуск ВМ

# Логин

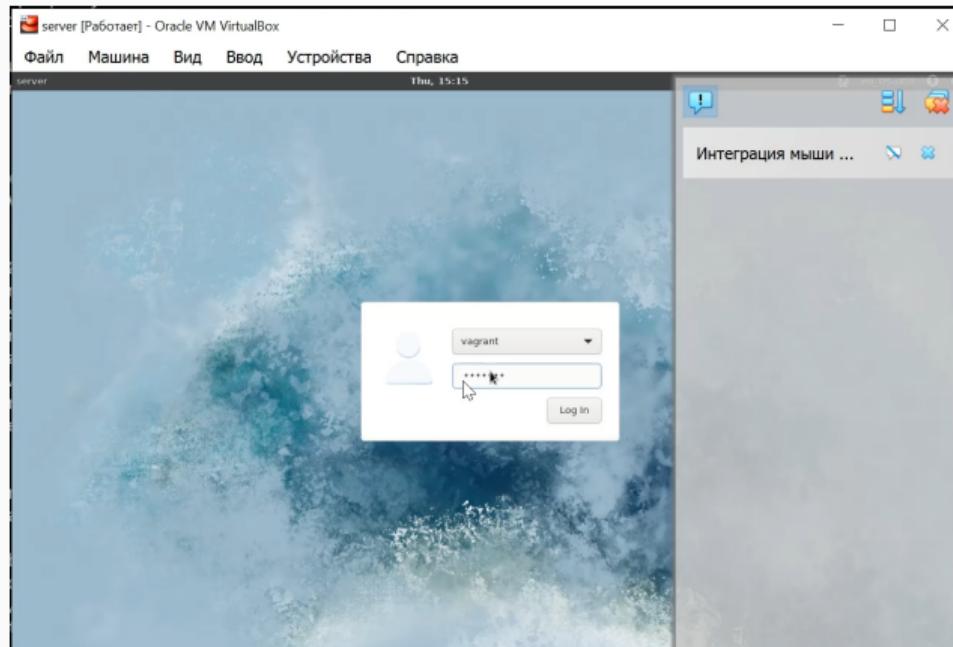


Рис. 6: Логин

# Логин

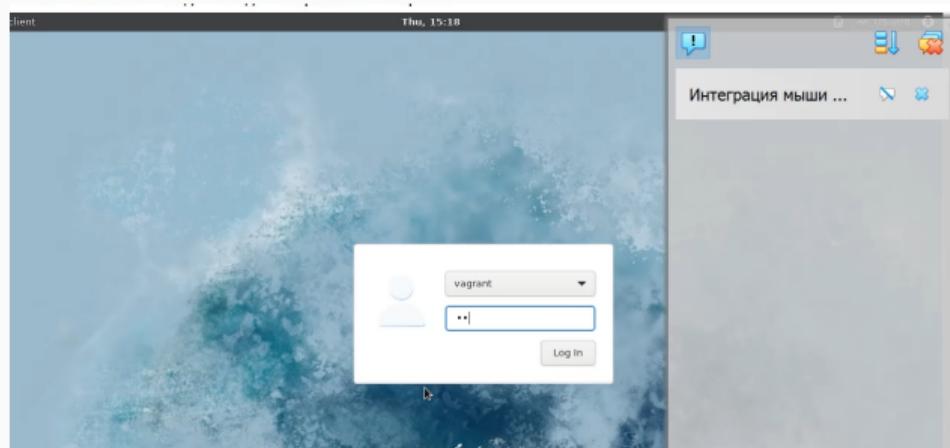


Рис. 7: Логин

# Подключение к серверу

```
itthenko\vagrant>vagrant ssh server
==> server: The machine you're attempting to SSH into is configured to use
==> server: password-based authentication. Vagrant can't script entering the
=> server: password for you. If you're prompted for a password, please enter
> server: the same password you have configured in the Vagrantfile.
rant@127.0.0.1's password:
login: Thu Sep  5 15:15:42 2024
ant@server ~]$ su - ioithenko
er ioithenko does not exist or the user entry does not contain all the required fields
t@server ~]$ logout
on to 127.0.0.1 closed.

itthenko\vagrant>vagrant ssh client
==> client: The machine you're attempting to SSH into is configured to use
==> client: password-based authentication. Vagrant can't script entering the
=> client: password for you. If you're prompted for a password, please enter
> client: the same password you have configured in the Vagrantfile.
rant@127.0.0.1's password:
login: Thu Sep  5 15:18:50 2024
ant@client ~]$ su - ioithenko
er ioithenko does not exist or the user entry does not contain all the required fields
t@client ~]$ logout
on to 127.0.0.1 closed.
```

Рис. 8: Подключение к серверу

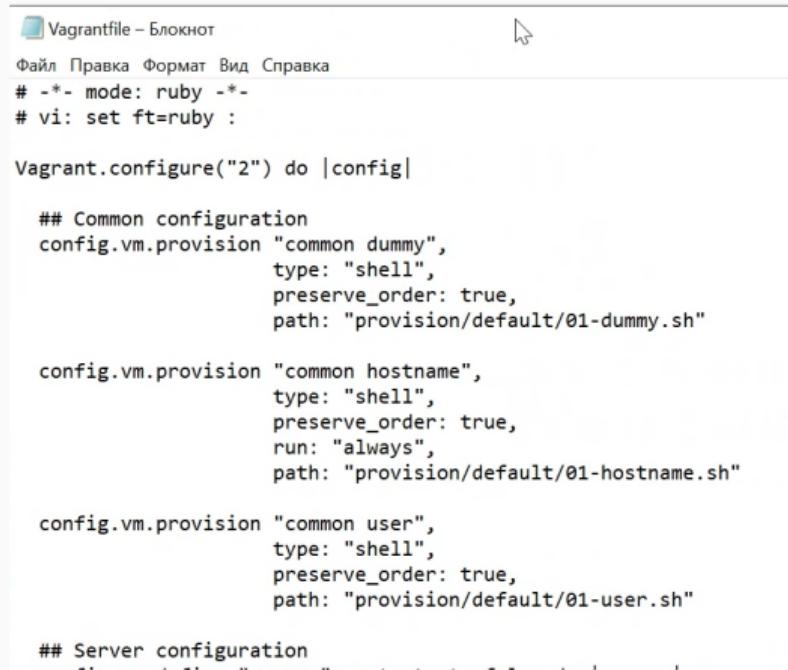
# Подключение к клиенту

```
itthenko\vagrant>vagrant halt server
Attempting graceful shutdown of VM...
D:\work\i
==> server

itthenko\vagrant>vagrant halt client
==> client: Attempting graceful shutdown of VM...
D:\work\ioit
```

Рис. 9: Подключение к клиенту

# Конфигурационный файл



The screenshot shows a Windows Notepad window titled "Vagrantfile – Блокнот". The window contains the following Ruby code:

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

Vagrant.configure("2") do |config|


    ## Common configuration
    config.vm.provision "common dummy",
        type: "shell",
        preserve_order: true,
        path: "provision/default/01-dummy.sh"

    config.vm.provision "common hostname",
        type: "shell",
        preserve_order: true,
        run: "always",
        path: "provision/default/01-hostname.sh"

    config.vm.provision "common user",
        type: "shell",
        preserve_order: true,
        path: "provision/default/01-user.sh"

    ## Server configuration
    # ... (truncated)
```

Рис. 10: Конфигурационный файл

# Внесение изменений

```
D:\work\ioithenko>vagrant up server --provision
Bringing machine 'server' up with 'virtualbox' provider...
==> server: You assigned a static IP ending in ".1" to this machine.
==> server: This is very often used by the router and can cause the
==> server: network to not work properly. If the network doesn't work
==> server: properly, try changing this IP.
==> server: You assigned a static IP ending in ".1" to this machine.
==> server: This is very often used by the router and can cause the
==> server: network to not work properly. If the network doesn't work
==> server: properly, try changing this IP.
==> server: Clearing any previously set forwarded ports...
==> server: Clearing any previously set network interfaces...
==> server: Preparing network interfaces based on configuration...
    server: Adapter 1: nat
    server: Adapter 2: intnet
==> server: Forwarding ports...
    server: 22 (guest) => 2222 (host) (adapter 1)
==> server: Running 'pre-boot' VM customizations...
==> server: Booting VM...
==> server: Waiting for machine to boot. This may take a few minutes...
    server: SSH address: 127.0.0.1:2222
    server: SSH username: vagrant
    server: SSH auth method: password
==> server: Machine booted and ready!
==> server: Checking for guest additions in VM...
    server: No guest additions were detected on the base box for this VM! Guest
    server: additions are required for forwarded ports, shared folders, host only
    server: networking, and more. If SSH fails on this machine, please install
    server: the guest additions and repackage the box to continue.
    server:
    server: This is not an error message; everything may continue to work properly,
    server: in which case you may ignore this message.
==> server: Setting hostname...
==> server: Configuring and enabling network interfaces...
==> server: Mounting shared folders...
    server: /vagrant => D:/work/ioithenko/vagrant
```

Рис. 11: Внесение изменений

# Внесение изменений

```
D:\work\ioithenko\vagrant>vagrant up client --provision
Bringing machine `client` up with `virtualbox` provider...
==> client: Running provisioner: common dummy (shell)...
    client: Running: C:/Users/iishc/AppData/Local/Temp/vagrant-shell20240905-16072-9aes4a.sh
    client: Provisioning script /tmp/vagrant-shell
==> client: Running provisioner: common hostname (shell)...
    client: Running: C:/Users/iishc/AppData/Local/Temp/vagrant-shell20240905-16072-ckgkvu.sh
==> client: Running provisioner: common user (shell)...
    client: Running: C:/Users/iishc/AppData/Local/Temp/vagrant-shell20240905-16072-68ng7w.sh
    client: Provisioning script /tmp/vagrant-shell
    client: id: 'ioithenko' is such user
==> client: Running provisioner: client dummy (shell)...
    client: Running: C:/Users/iishc/AppData/Local/Temp/vagrant-shell20240905-16072-7t4qgp.sh
    client: Provisioning script /tmp/vagrant-shell
==> client: Running provisioner: client routing (shell)...
    client: Running: C:/Users/iishc/AppData/Local/Temp/vagrant-shell20240905-16072-fh0k9y.sh
    client: Provisioning script /tmp/vagrant-shell
    client: Error: Failed to modify connection 'System eth1': ipv4.gateway: gateway cannot be set if there are no addresses configured
    client: Error: Connection activation failed: IP configuration could not be reserved (no available address, timeout, etc.)
    client: Hint: use `journalctl -xe NM_CONNECTION=9c92fad9-6ecb-3e6c-e8d4-8a47c6f59c04 + NM_DEVICE=eth1` to get more details.
    client: Connection 'eth0' successfully deactivated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/2)
    client: Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/10)

D:\work\ioithenko\vagrant>vagrant halt client
==> client: Attempting graceful shutdown of VM...

D:\work\ioithenko\vagrant>vagrant halt server
==> server: Attempting graceful shutdown of VM...

D:\work\ioithenko\vagrant>
```

Рис. 12: Внесение изменений

# Логин

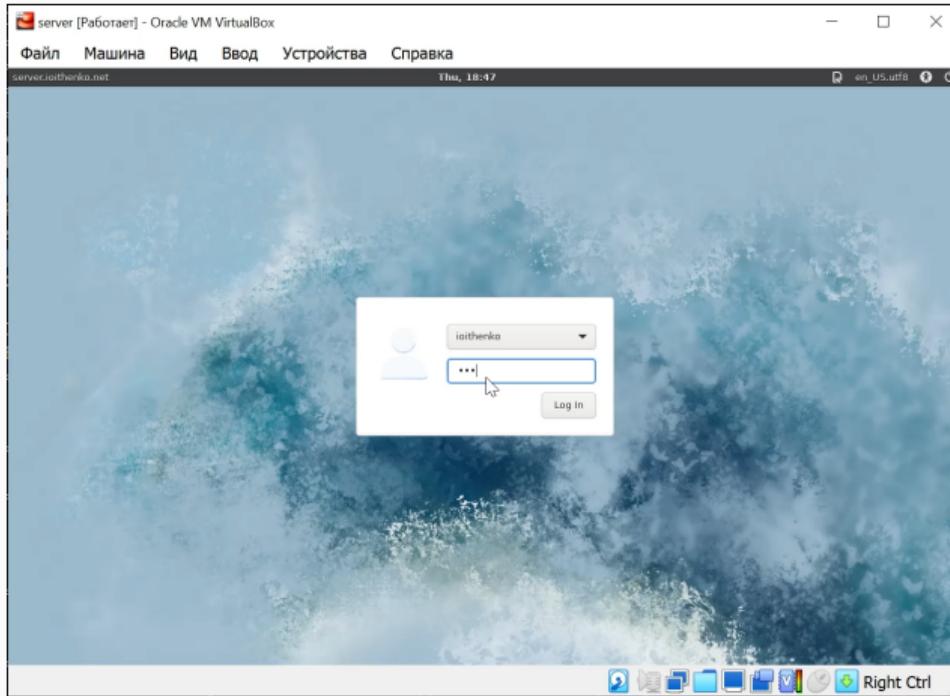


Рис. 13: Логин

# Логин

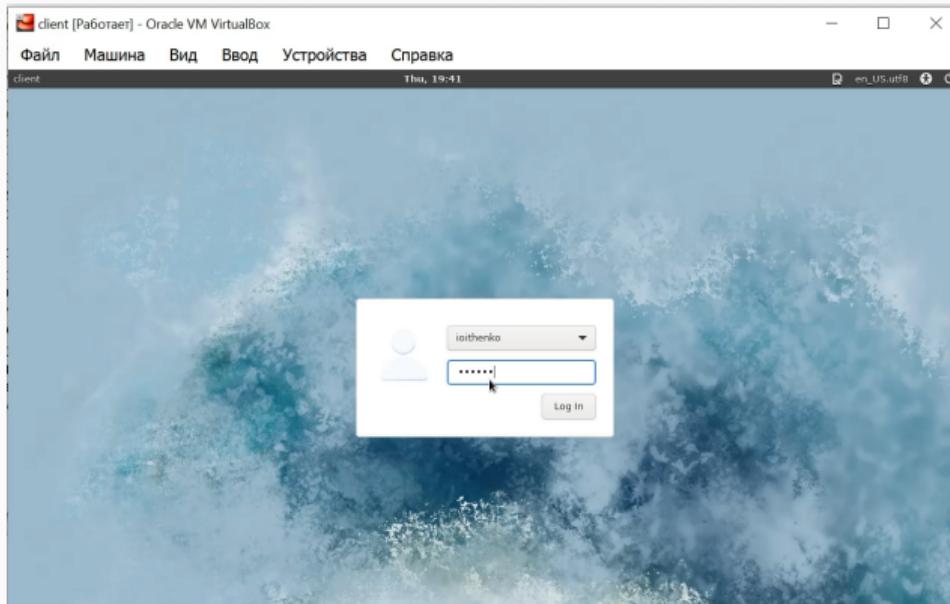


Рис. 14: Логин

# Проверка

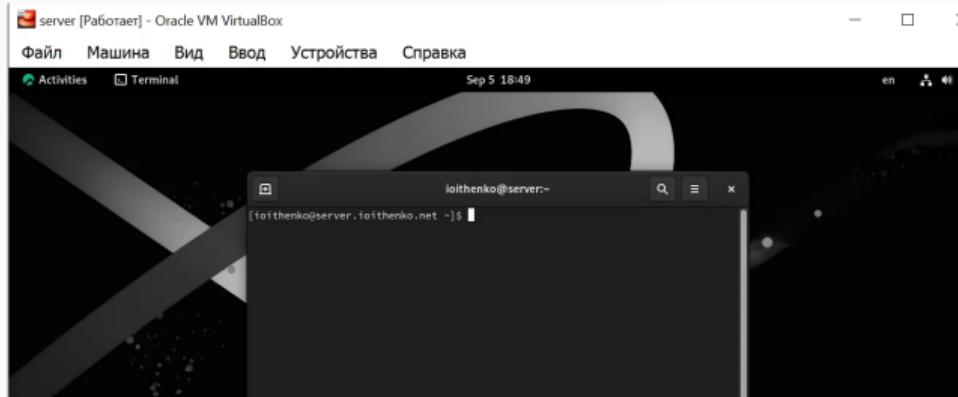


Рис. 15: Терминал

# Проверка

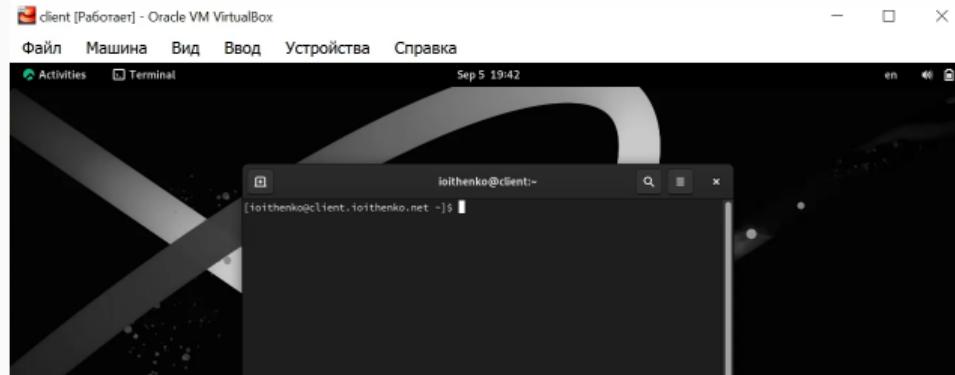


Рис. 16: Терминал

## Выводы

В ходе лабораторной работы я приобрела практические навыки установки Rocky Linux на виртуальную машину с помощью инструмента Vagrant.

