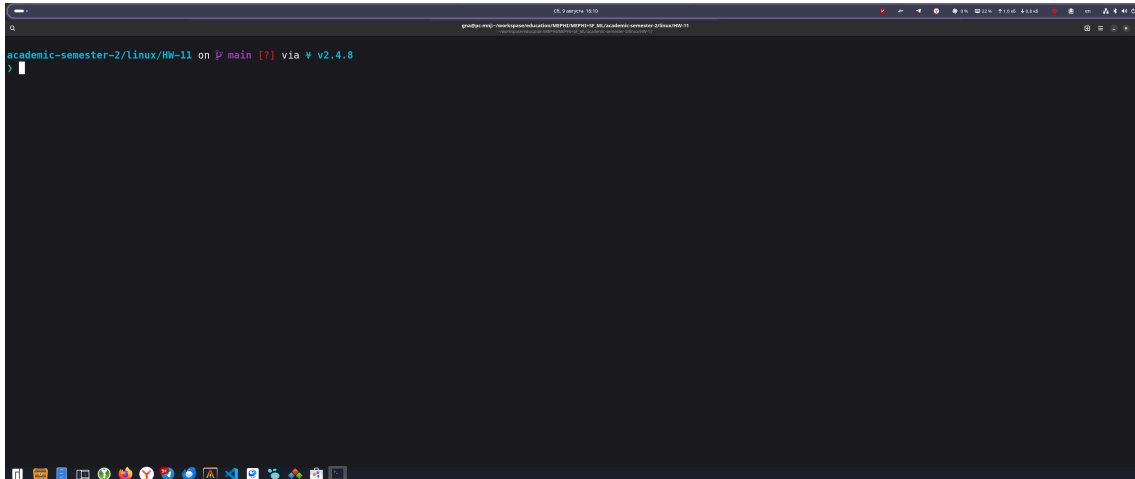


# Домашняя работа № 11

Выполнил: Груданов Николай Алексеевич

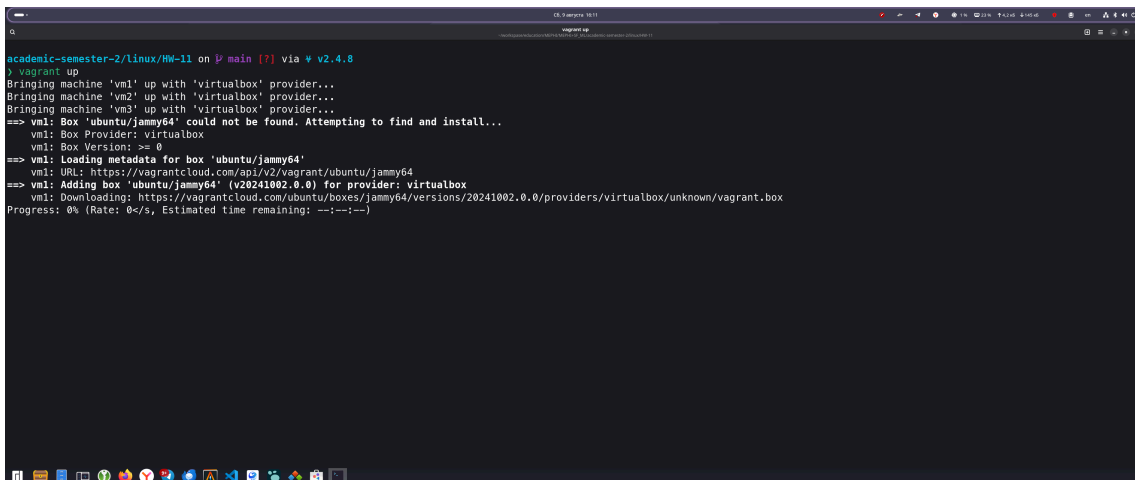
---

## Выполнение работы



### 1.1 Запуск всех виртуальных машин

```
vagrant up
```



```
vm3: Unpacking python3-problem-report (2.20.11-0ubuntu82.10) over (2.20.11-0ubuntu82.9) ...
vm3: Preparing to unpack .../3-python3-apport_2.20.11-0ubuntu82.10_all.deb ...
vm3: Unpacking python3-apport (2.20.11-0ubuntu82.10) over (2.20.11-0ubuntu82.9) ...
vm3: Preparing to unpack .../4-apport_2.20.11-0ubuntu82.10_all.deb ...
vm3: Unpacking apport (2.20.11-0ubuntu82.10) over (2.20.11-0ubuntu82.9) ...
vm3: Preparing to unpack .../5-cloud-init_25.1.4-0ubuntu0~22.04.1_all.deb ...
vm3: Unpacking cloud-init (25.1.4-0ubuntu0~22.04.1) over (25.1.2-0ubuntu0~22.04.2) ...
vm3: Setting up cloud-init (25.1.4-0ubuntu0~22.04.1) ...
vm3: Setting up python3-problem-report (2.20.11-0ubuntu82.10) ...
vm3: Setting up libsqlite3-0:amd64 (5.37.2-2ubuntu0.5) ...
vm3: Setting up perl-modules-5.34 (5.34.0-3ubuntu1.5) ...
vm3: Setting up python3-apport (2.20.11-0ubuntu82.10) ...
vm3: Setting up libperl5.34:amd64 (5.34.0-3ubuntu1.5) ...
vm3: Setting up apport (2.20.11-0ubuntu82.10) ...
vm3: apport-autoreport.service is a disabled or a static unit, not starting it.
vm3: Setting up perl (5.34.0-3ubuntu1.5) ...
vm3: Processing triggers for rsyslog (8.2112.0-2ubuntu2.2) ...
vm3: Processing triggers for man-db (2.10.2-1) ...
vm3: Processing triggers for libc-bin (2.35-0ubuntu3.10) ...
vm3:
vm3: Running kernel seems to be up-to-date.
vm3:
vm3: Services to be restarted:
vm3:   systemctl restart packagekit.service
vm3:
vm3: No containers need to be restarted.
vm3:
vm3: No user sessions are running outdated binaries.
vm3:
vm3: No VM guests are running outdated hypervisor (qemu) binaries on this host.

academic-semester-2/linux/HW-11 on 12 main [7] via 2.4.8 took 11m48s
>
```

## 1.2 Проверка статуса после запуска

```
vagrant status
```

```
vm3: Setting up libperl5.34:amd64 (5.34.0-3ubuntu1.5) ...
vm3: Setting up apport (2.20.11-0ubuntu82.10) ...
vm3: apport-autoreport.service is a disabled or a static unit, not starting it.
vm3: Setting up perl (5.34.0-3ubuntu1.5) ...
vm3: Processing triggers for rsyslog (8.2112.0-2ubuntu2.2) ...
vm3: Processing triggers for man-db (2.10.2-1) ...
vm3: Processing triggers for libc-bin (2.35-0ubuntu3.10) ...
vm3:
vm3: Running kernel seems to be up-to-date.
vm3:
vm3: Services to be restarted:
vm3:   systemctl restart packagekit.service
vm3:
vm3: No containers need to be restarted.
vm3:
vm3: No user sessions are running outdated binaries.
vm3:
vm3: No VM guests are running outdated hypervisor (qemu) binaries on this host.

academic-semester-2/linux/HW-11 on 12 main [7] via 2.4.8 took 11m48s
> vagrant status
Current machine states:

vm1           running (virtualbox)
vm2           running (virtualbox)
vm3           running (virtualbox)

This environment represents multiple VMs. The VMs are all listed
above with their current state. For more information about a specific
VM, run 'vagrant status NAME'.

academic-semester-2/linux/HW-11 on 12 main [7] via 2.4.8
>
```

## 2. Проверка VM1

### 2.1 Подключение к VM1 и проверка установленных пакетов

```
vagrant ssh vm1
```

```
academic-semester-2/linux/HW-11 on lv main [?] via # v2.4.8
> vagrant ssh vm1
```

```
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 5.15.0-144-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Aug  9 14:33:16 UTC 2025

System load:          0.0
Usage of /:            12.7% of 38.70GB
Memory usage:         22%
Swap usage:           0%
Processes:            135
Users logged in:      0
IPv4 address for enp0s3: 10.0.2.15
IPv6 address for enp0s3: fd17:625c:f037:2:29:1eff:fe73:1fd5

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.
8 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

1 additional security update can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

New release '24.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

*** System restart required ***
vagrant@vm1:~$
```

```
dpkg -l | grep ubuntu-desktop-minimal
which chromium-browser
snap list | grep store
```

```
vagrant@vm1:~$ dpkg -l | grep ubuntu-desktop-minimal
ii  ubuntu-desktop-minimal 1.481.4 amd64 The Ubuntu desktop minimal system
vagrant@vm1:~$ which chromium-browser
/usr/bin/chromium-browser
vagrant@vm1:~$ snap list | grep store
snap-store 0+git.90575829 1270 2/stable canonical** -
vagrant@vm1:~$
```

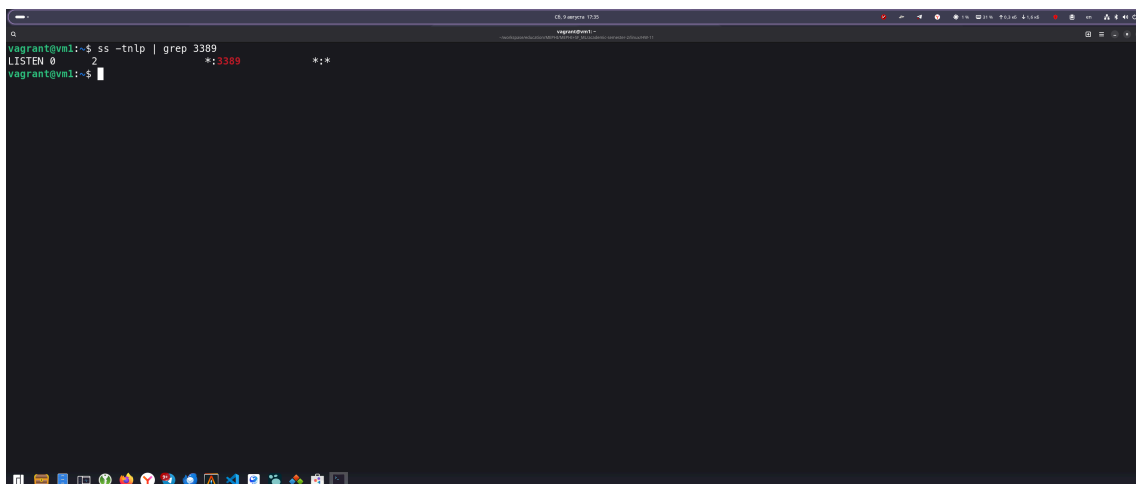
## 2.2 Проверка службы Xrdp

```
sudo systemctl status xrdp
```

```
vagrant@vm1:~$ dpkg -l | grep ubuntu-desktop-minimal
ii  ubuntu-desktop-minimal 1.481.4 amd64 The Ubuntu desktop minimal system
vagrant@vm1:~$ which chromium-browser
/usr/bin/chromium-browser
vagrant@vm1:~$ snap list | grep store
snap-store 0+git.90575829 1270 2/stable canonical** -
vagrant@vm1:~$ sudo systemctl status xrdp
● xrdp.service - xrdp daemon
   Loaded: loaded (/lib/systemd/system/xrdp.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-08-09 13:20:41 UTC; 1h 14min ago
     Docs: man:xrdp(8)
           man:xrdp.ini(5)
   Main PID: 35761 (xrdp)
      Tasks: 1 (Limit: 2309)
     Memory: 864.0K
        CPU: 4ms
    CGroup: /system.slice/xrdp.service
            └─35761 /usr/sbin/xrdp

Aug 09 13:20:40 vm1 systemd[1]: Starting xrdp daemon...
Aug 09 13:20:40 vm1 xrdp[35760]: [INFO ] address [0.0.0.0] port [3389] mode 1
Aug 09 13:20:40 vm1 xrdp[35760]: [INFO ] listening to port 3389 on 0.0.0.0
Aug 09 13:20:40 vm1 xrdp[35760]: [INFO ] xrdp_listen_pp done
Aug 09 13:20:40 vm1 systemd[1]: xrdp.service: Can't open PID file /run/xrdp/xrdp.pid (yet?) after start: Operation not permitted
Aug 09 13:20:41 vm1 systemd[1]: Started xrdp daemon.
Aug 09 13:20:42 vm1 xrdp[35761]: [INFO ] starting xrdp with pid 35761
Aug 09 13:20:42 vm1 xrdp[35761]: [INFO ] address [0.0.0.0] port [3389] mode 1
Aug 09 13:20:42 vm1 xrdp[35761]: [INFO ] listening to port 3389 on 0.0.0.0
Aug 09 13:20:42 vm1 xrdp[35761]: [INFO ] xrdp_listen_pp done
vagrant@vm1:~$
```

```
ss -tnlp | grep 3389
```

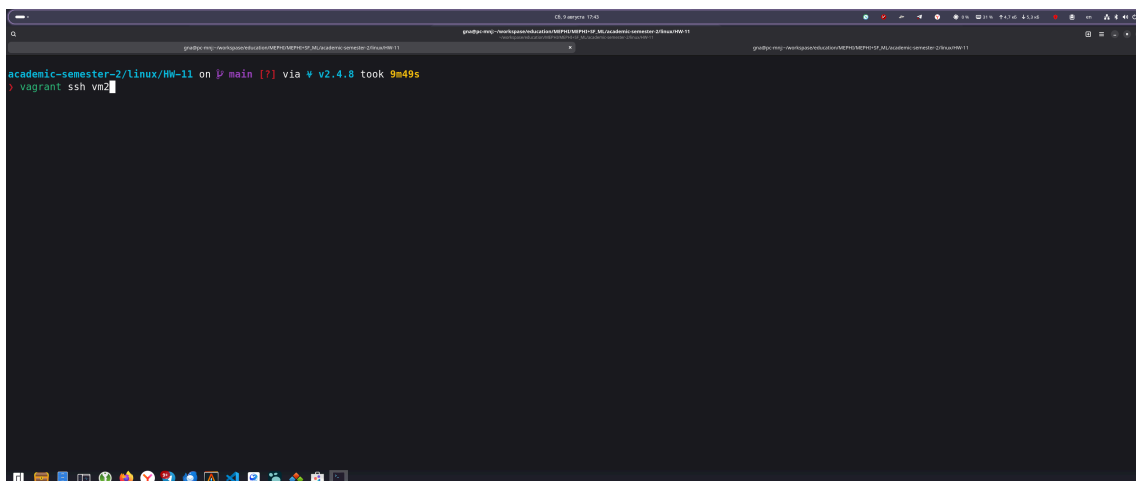


```
13.04.2024 12:02
vagrant@vm1:~$ ss -tnlp | grep 3389
LISTEN 0      2            *:3389      *:*
vagrant@vm1:~$
```

### 3. Проверка VM2 - Docker и WireGuard

#### 3.1 Подключение к VM2 и проверка Docker

```
vagrant ssh vm2
```



```
academic-semester-2/linux/HW-11 on P main [?] via v v2.4.8 took 9m49s
vagrant ssh vm2
```

```
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 5.15.0-144-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Aug  9 14:43:22 UTC 2025

System load:          0.0
Usage of /:            5.8% of 38.7GB
Memory usage:         27%
Swap usage:           0%
Processes:            100
Users logged in:      0
IPv4 address for enp0s3: 10.0.2.15
IPv6 address for enp0s3: fd17:625c:f037:2:29:1eff:fe73:1fd5

Expanded Security Maintenance for Applications is not enabled.

8 updates can be applied immediately.
8 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '24.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

vagrant@vm2:~$
```

```
docker --version
sudo systemctl status docker
sudo systemctl status docker
```

```
vagrant@vm2:~$ docker --version
Docker version 28.3.3, build 980b856
vagrant@vm2:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-08-09 13:22:00 UTC; 1h 22min ago
   TriggeredBy: ● docker.socket
   Docs: https://docs.docker.com
   Main PID: 3654 (dockerd)
   Tasks: 8
   Memory: 82.7M
   CPU: 661ms
   CGroup: /system.slice/docker.service
           └─3654 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Aug 09 13:21:59 vm2 dockerd[3654]: time="2025-08-09T13:21:59.806472725Z" level=info msg="detected 127.0.0.53 nameserver, assuming system-resolved, so using resolv.conf: /run/systemd/resolv.conf"
Aug 09 13:21:59 vm2 dockerd[3654]: time="2025-08-09T13:21:59.837991324Z" level=info msg="Creating a containerd client" address=/run/containerd/containerd.sock timeout=1m0s
Aug 09 13:21:59 vm2 dockerd[3654]: time="2025-08-09T13:21:59.835009690Z" level=info msg="Loading containers: start."
Aug 09 13:21:59 vm2 dockerd[3654]: time="2025-08-09T13:21:59.993564171Z" level=info msg="Loading containers: done."
Aug 09 13:22:00 vm2 dockerd[3654]: time="2025-08-09T13:22:00.006134505Z" level=info msg="Docker daemon" commit=bea959c containerd-snapshotter=false storage-driver=overlay2 version=28.3.3
Aug 09 13:22:00 vm2 dockerd[3654]: time="2025-08-09T13:22:00.006196772Z" level=info msg="Initializing buildkit"
Aug 09 13:22:00 vm2 dockerd[3654]: time="2025-08-09T13:22:00.058119427Z" level=info msg="Completed buildkit initialization"
Aug 09 13:22:00 vm2 dockerd[3654]: time="2025-08-09T13:22:00.062184691Z" level=info msg="Daemon has completed initialization"
Aug 09 13:22:00 vm2 dockerd[3654]: time="2025-08-09T13:22:00.062280520Z" level=info msg="API listen on /run/docker.sock"
Aug 09 13:22:00 vm2 systemd[1]: Started Docker Application Container Engine.
vagrant@vm2:~$ sudo docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS   NAMES
d0ba520b76aa  ngodykhanh/wireguard-ui:latest     "/.init.sh"             About an hour ago    Up About an hour    ports   wg-ui
vagrant@vm2:~$
```

## 3.2 Проверка WireGuard tools

```
which wg
wg --version
```

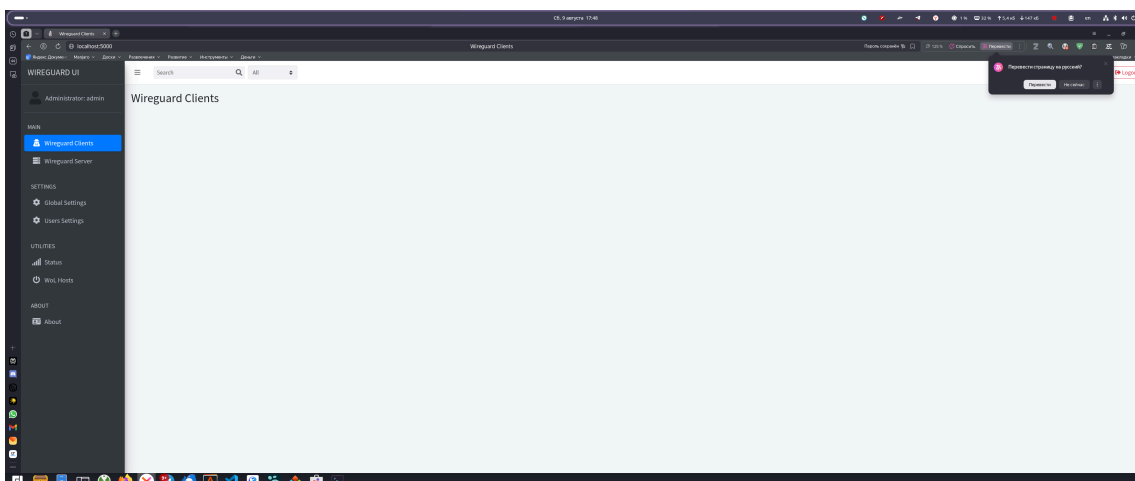
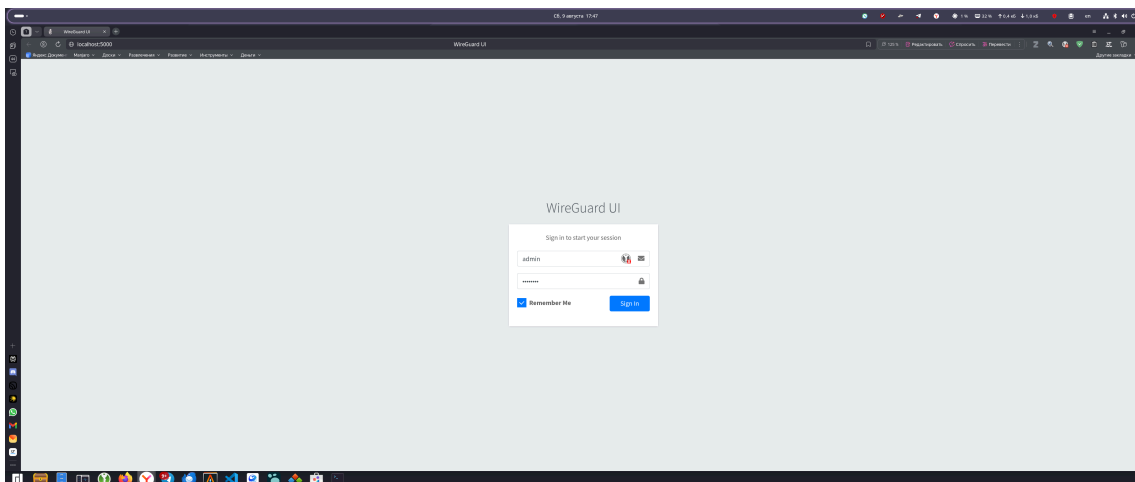
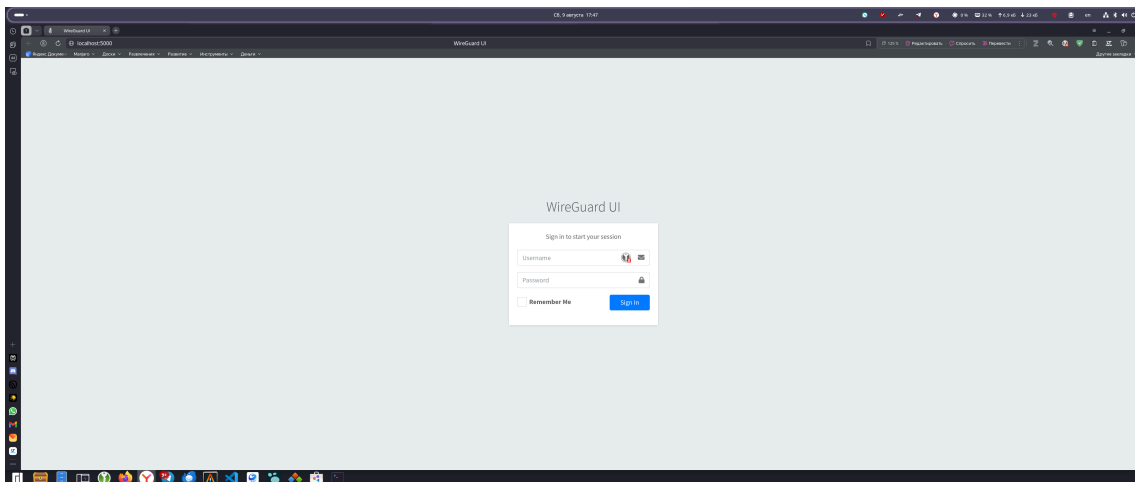
```
vagrant@vm2:~$ which wg
/usr/bin/wg
vagrant@vm2:~$ wg --version
wireguard-tools v1.0.20210914 - https://git.zx2c4.com/wireguard-tools/
vagrant@vm2:~$
```

### 3.3 Проверка WireGuard UI контейнера

```
docker ps | grep wg-ui
docker logs wg-ui
```

```
vagrant@vm2:~$ sudo docker ps | grep wg-ui
d0aa520b76aa  ngoduykhanh/wireguard-ui:latest  "/.init.sh"  About an hour ago  Up About an hour  wg-ui
vagrant@vm2:~$ sudo docker logs wg-ui
jq: error: Could not open file db/server/global_settings.json: No such file or directory
wg-quick: '/etc/wireguard/wg0.conf' does not exist
Wireguard UI
App Version      : dev
Git Commit       : 2fdafd3
Git Ref          : N/A
Build Time      : 06-09-2025 13:22:10
Git Repo        : https://github.com/ngoduykhanh/wireguard-ui
Authentication   : true
Bind address     : 0.0.0.0:5000
Email from       :
Email from name  : WireGuard UI
Custom wg.conf   : /app/templates/wg.conf
Base path        : /
Subnet ranges    :
Valid subnet ranges:
- http server started on [::]:5000
vagrant@vm2:~$
```

### 3.4 Проверка доступа к WireGuard UI через браузер

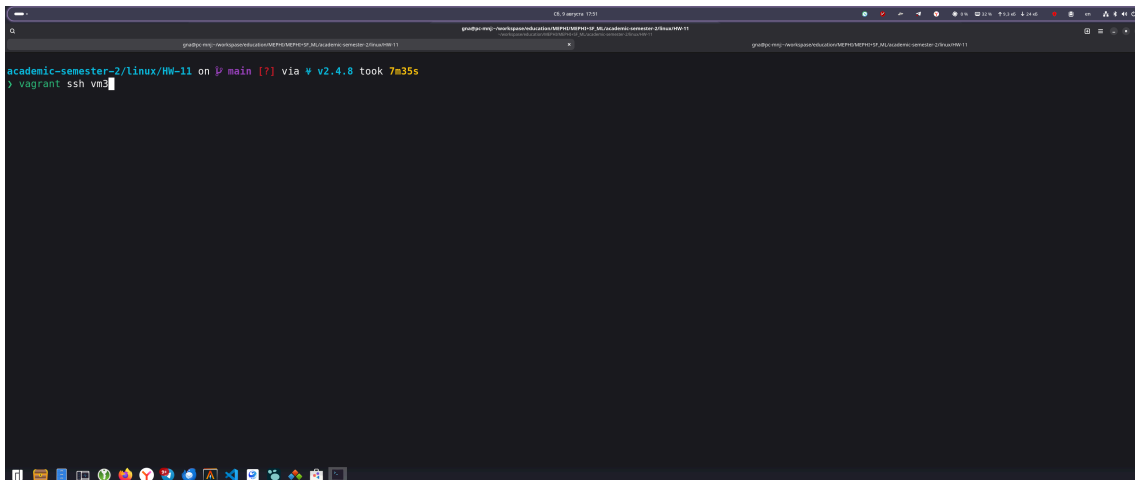


## 4. Проверка VM3 - Пользователь adam

### 4.1 Подключение к VM3 и проверка пользователя adam

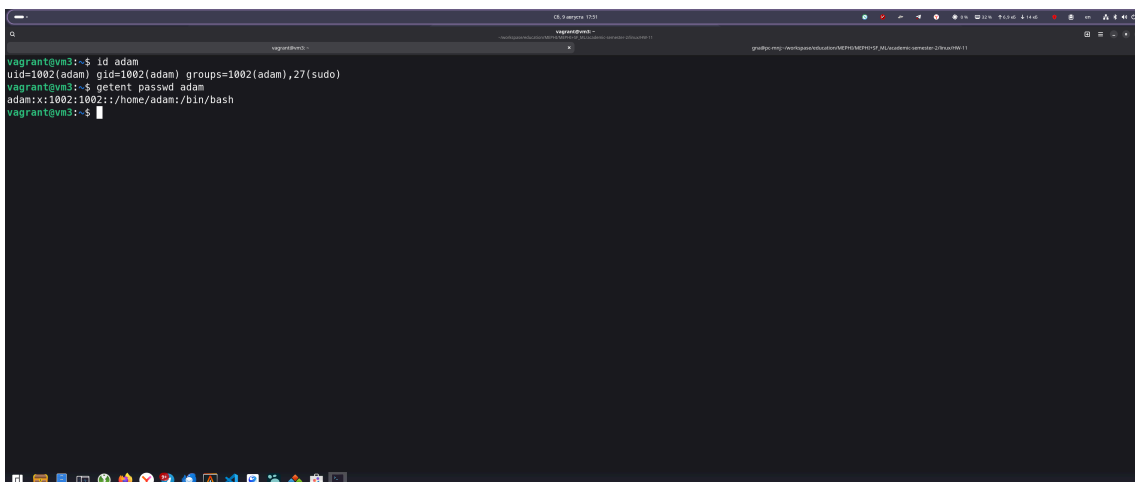


```
 vagrant ssh vm3
```



```
academic-semester-2/linux/HW-11 on main [?] via v2.4.6 took 7m35s
> vagrant ssh vm3
```

```
id adam
getent passwd adam
```



```
vagrant@vm3:~$ id adam
uid=1002(adam) gid=1002(adam) groups=1002(adam),27(sudo)
vagrant@vm3:~$ getent passwd adam
adam:x:1002:1002::/home/adam:/bin/bash
vagrant@vm3:~$
```

## 4.2 Проверка домашней директории и оболочки

```
grep adam /etc/passwd
```

```
vagrant@vm3:~$ grep adam /etc/passwd
adam:x:1002:1002:~/home/adam:/bin/bash
vagrant@vm3:~$
```

### 4.3 Проверка первичной группы adam

```
groups adam
getent group adam
```

```
vagrant@vm3:~$ groups adam
adam : adam sudo
vagrant@vm3:~$ getent group adam
adam:x:1002:
vagrant@vm3:~$
```