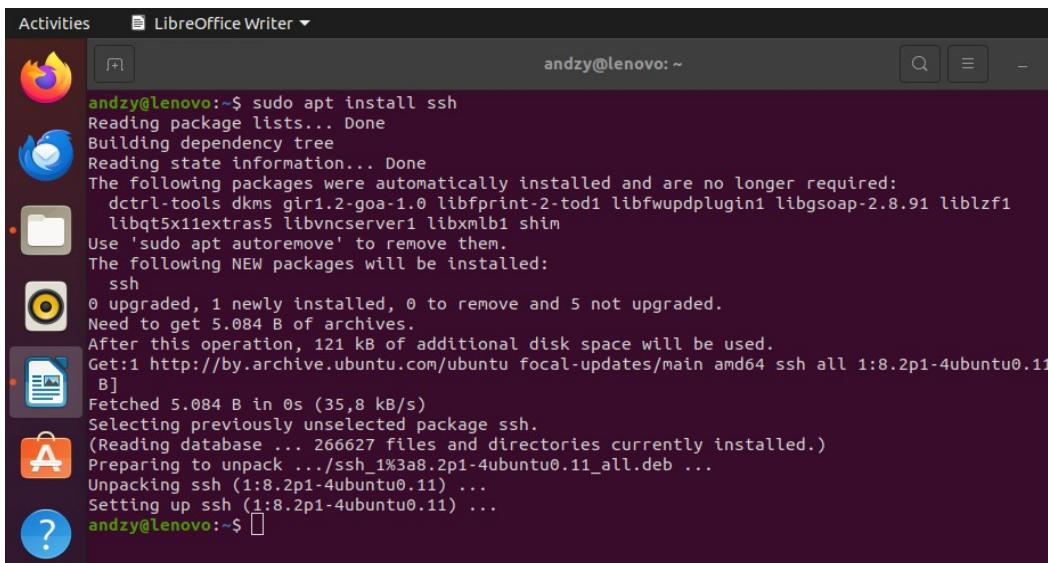


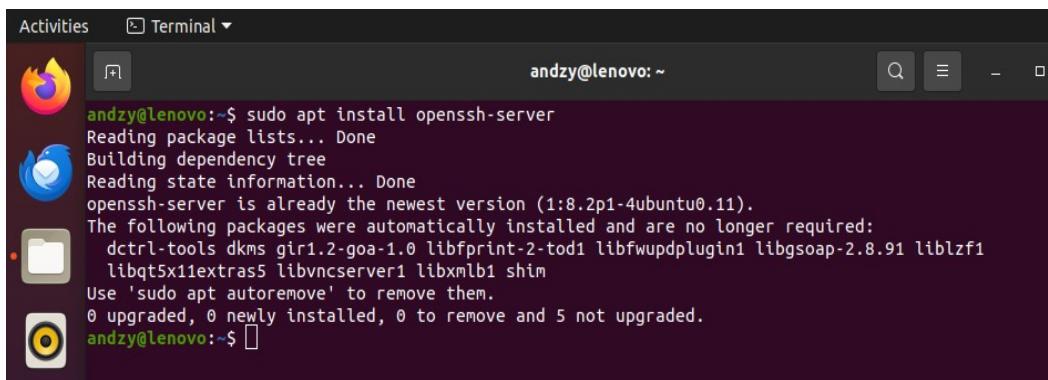
1. Настраиваем ssh сервис:

```
$ sudo apt install ssh
```



```
andzy@lenovo:~$ sudo apt install ssh
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  dctrl-tools dkms gir1.2-goa-1.0 libfprint-2-tod1 libfwupdplugin1 libgsoap-2.8.91 liblzf1
  libqt5x11extras5 libvncserver1 libxmlb1 shim
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  ssh
0 upgraded, 1 newly installed, 0 to remove and 5 not upgraded.
Need to get 5.084 B of archives.
After this operation, 121 kB of additional disk space will be used.
Get:1 http://by.archive.ubuntu.com/ubuntu focal-updates/main amd64 ssh all 1:8.2p1-4ubuntu0.11 [5.084 B]
Fetched 5.084 B in 0s (35,8 kB/s)
Selecting previously unselected package ssh.
(Reading database ... 266627 files and directories currently installed.)
Preparing to unpack .../ssh_1%3a8.2p1-4ubuntu0.11_all.deb ...
Unpacking ssh (1:8.2p1-4ubuntu0.11) ...
Setting up ssh (1:8.2p1-4ubuntu0.11) ...
andzy@lenovo:~$
```

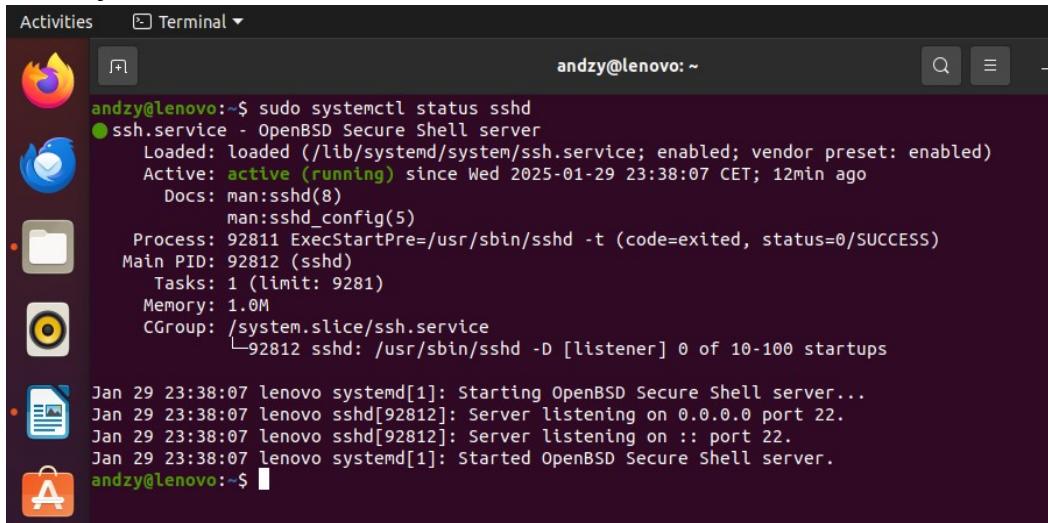
```
$ sudo apt install openssh-server
```



```
andzy@lenovo:~$ sudo apt install openssh-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
openssh-server is already the newest version (1:8.2p1-4ubuntu0.11).
The following packages were automatically installed and are no longer required:
  dctrl-tools dkms gir1.2-goa-1.0 libfprint-2-tod1 libfwupdplugin1 libgsoap-2.8.91 liblzf1
  libqt5x11extras5 libvncserver1 libxmlb1 shim
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
andzy@lenovo:~$
```

Проверяем работу ssh:

```
$ sudo systemctl status sshd
```

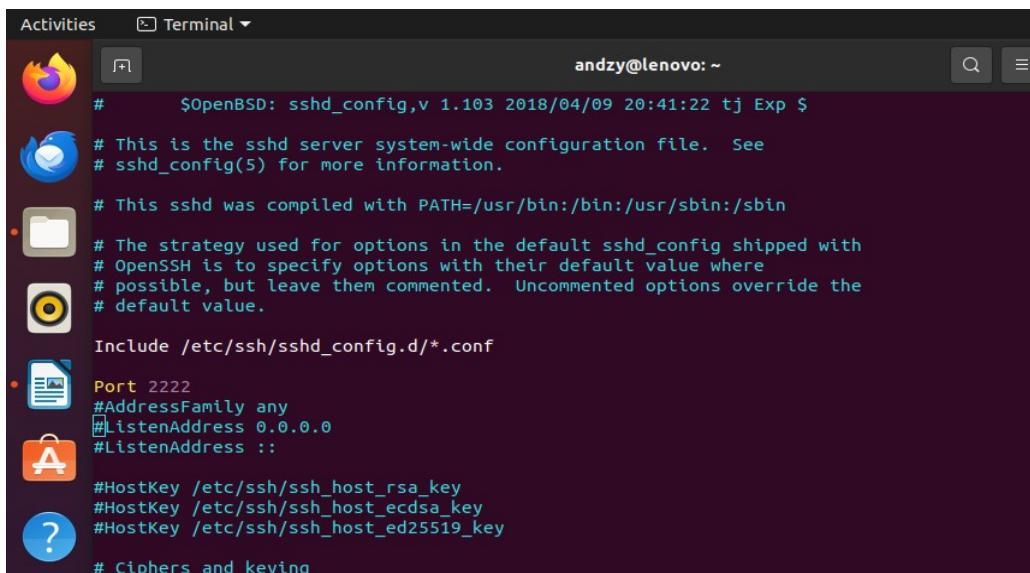


```
andzy@lenovo:~$ sudo systemctl status sshd
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2025-01-29 23:38:07 CET; 12min ago
     Docs: man:sshd(8)
           man:sshd_config(5)
     Process: 92811 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
      Main PID: 92812 (sshd)
        Tasks: 1 (limit: 9281)
       Memory: 1.0M
      CGroup: /system.slice/ssh.service
              └─92812 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Jan 29 23:38:07 lenovo systemd[1]: Starting OpenBSD Secure Shell server...
Jan 29 23:38:07 lenovo sshd[92812]: Server listening on 0.0.0.0 port 22.
Jan 29 23:38:07 lenovo sshd[92812]: Server listening on :: port 22.
Jan 29 23:38:07 lenovo systemd[1]: Started OpenBSD Secure Shell server.
andzy@lenovo:~$
```

2. В `/etc/ssh/sshd_config` меняем дефолтный порт 22 на Port 2222

```
$ sudo vim /etc/ssh/sshd_config
```



```
# OpenBSD: sshd_config,v 1.103 2018/04/09 20:41:22 tj Exp $  
# This is the sshd server system-wide configuration file. See  
# sshd_config(5) for more information.  
#  
# This sshd was compiled with PATH=/usr/bin:/bin:/usr/sbin:/sbin  
# 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.  
Include /etc/ssh/sshd_config.d/*.conf  
  
Port 2222  
#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
```

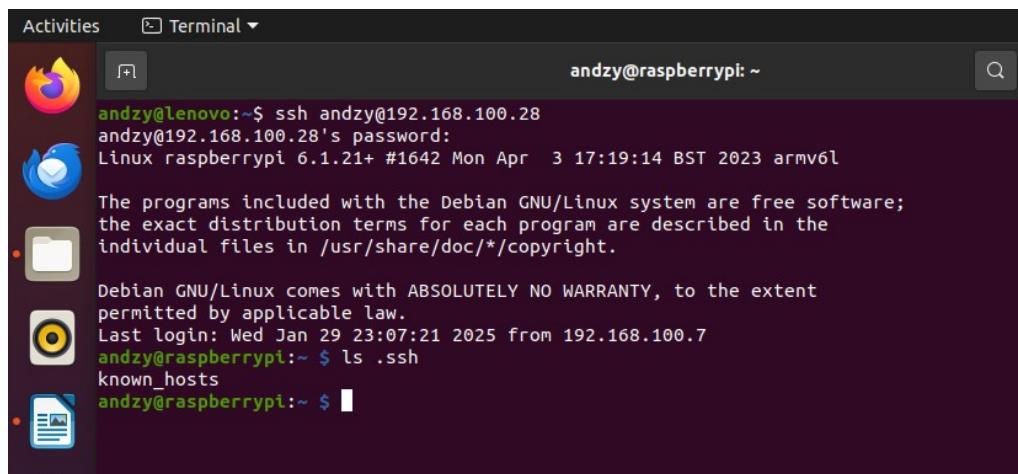
Перезапускаем sshd для измененного конфигурационного файла

```
$ sudo systemctl restart sshd
```

Проверяем соединение по ssh с удаленной машиной `andzy@raspberrypi`

```
$ ssh andzy@192.168.100.28
```

На данном этапе соединение происходит по паролям без ключей

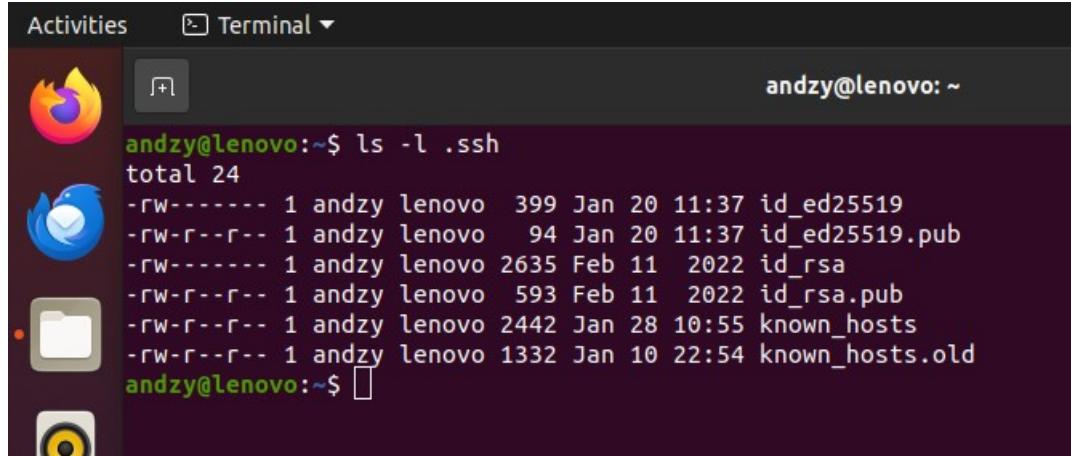


```
andzy@lenovo:~$ ssh andzy@192.168.100.28  
andzy@192.168.100.28's password:  
Linux raspberrypi 6.1.21+ #1642 Mon Apr  3 17:19:14 BST 2023 armv6l  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*copyright.  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Wed Jan 29 23:07:21 2025 from 192.168.100.7  
andzy@raspberrypi:~ $ ls .ssh  
known_hosts  
andzy@raspberrypi:~ $
```

Види что в папке ssh удаленной машины `andzy@raspberrypi` отсутствует файл `authorized_keys`

3. Сгенерируем ключи для аутентификации на хостовой машине **andzy@lenovo**:

```
$ ssh-keygen -t e25519
```

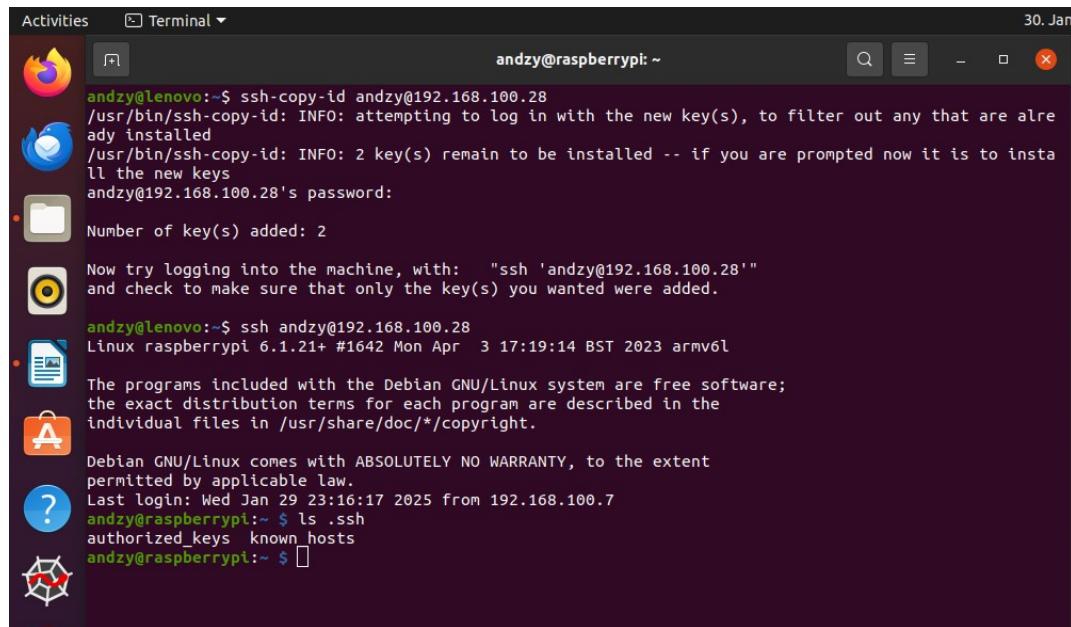


The screenshot shows a terminal window titled "Terminal" with the command "ssh-keygen -t e25519" run by user "andzy@lenovo". The output lists several files generated in the .ssh directory:

```
andzy@lenovo:~$ ls -l .ssh
total 24
-rw----- 1 andzy lenovo 399 Jan 20 11:37 id_ed25519
-rw-r--r-- 1 andzy lenovo 94 Jan 20 11:37 id_ed25519.pub
-rw----- 1 andzy lenovo 2635 Feb 11 2022 id_rsa
-rw-r--r-- 1 andzy lenovo 593 Feb 11 2022 id_rsa.pub
-rw-r--r-- 1 andzy lenovo 2442 Jan 28 10:55 known_hosts
-rw-r--r-- 1 andzy lenovo 1332 Jan 10 22:54 known_hosts.old
andzy@lenovo:~$
```

4. Копируем публичный ключ `id_ed25519.pub` на удаленную машину/сервер **andzy@raspberrypi**

```
$ ssh-copy-id andzy@192.168.100.28
```



The screenshot shows a terminal window titled "Terminal" with the command "ssh-copy-id andzy@192.168.100.28" run by user "andzy@lenovo". The output shows the process of adding the public key to the remote machine's authorized_keys file.

```
andzy@lenovo:~$ ssh-copy-id andzy@192.168.100.28
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 2 key(s) remain to be installed -- if you are prompted now it is to install the new keys
andzy@192.168.100.28's password:
Number of key(s) added: 2

Now try logging into the machine, with:  "ssh 'andzy@192.168.100.28'"
and check to make sure that only the key(s) you wanted were added.

andzy@lenovo:~$ ssh andzy@192.168.100.28
Linux raspberrypi 6.1.21+ #1642 Mon Apr 3 17:19:14 BST 2023 armv6l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Jan 29 23:16:17 2025 from 192.168.100.7
andzy@raspberrypi:~ $ ls .ssh
authorized_keys known_hosts
andzy@raspberrypi:~ $
```

В данном случае общение по сети происходит по ключам
И в папке `ssh` удаленной машины andzy@raspberrypi появился файл `authorized_keys`