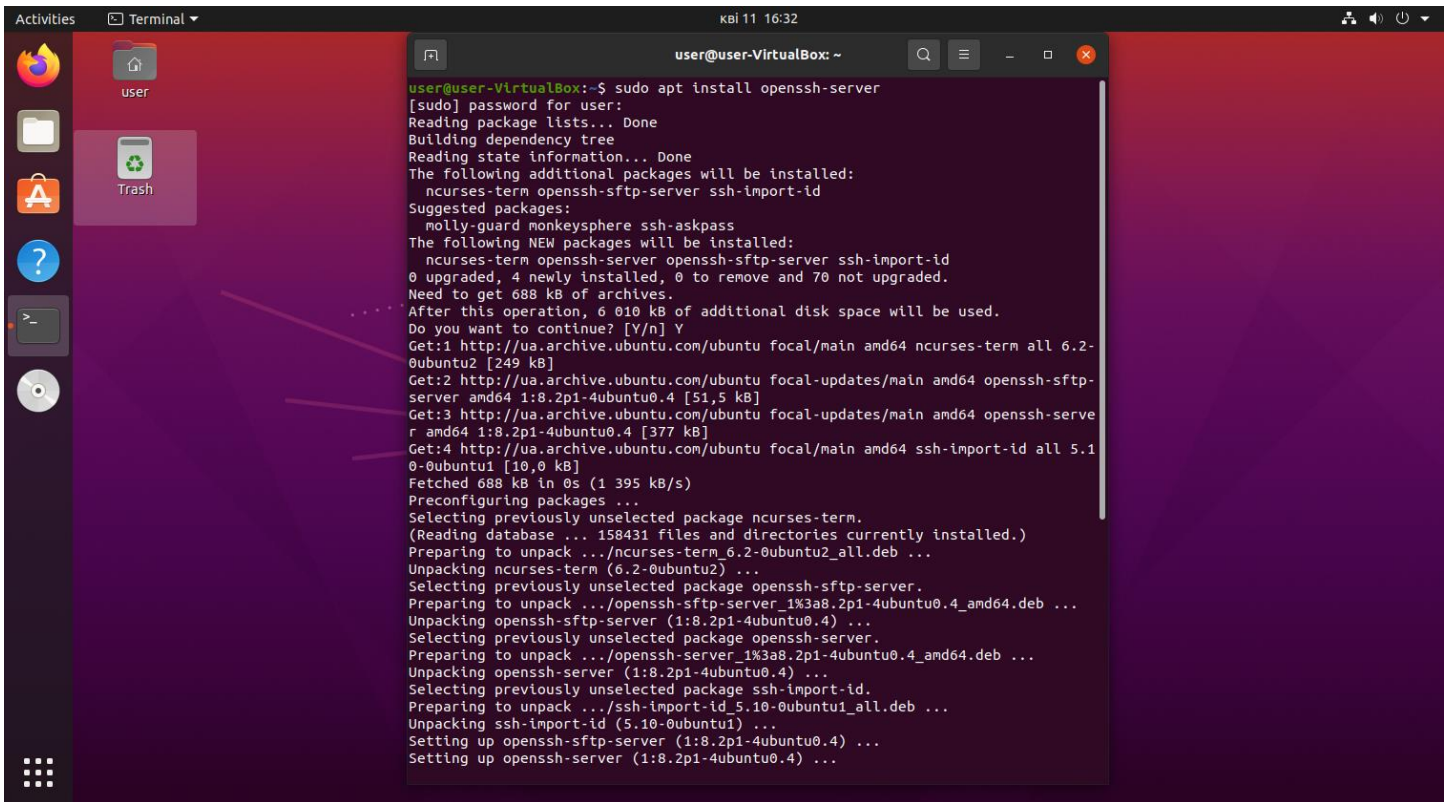


1. Встановлення ssh серверу.



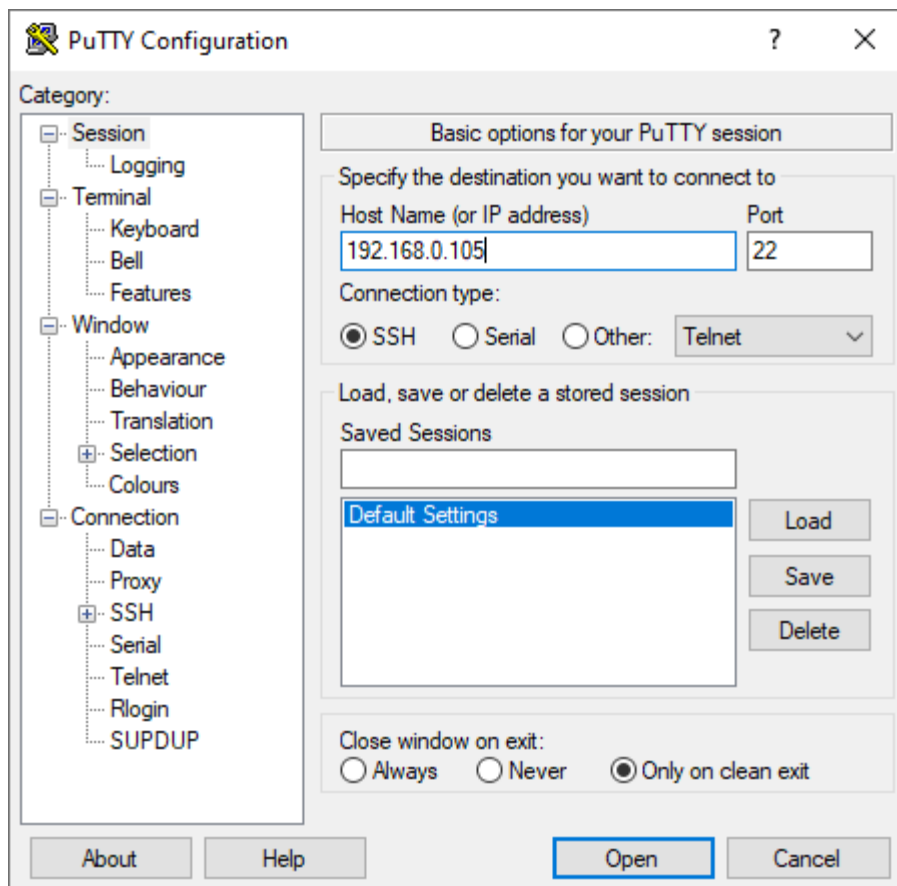
The screenshot shows a terminal window titled 'user@user-VirtualBox: ~' with a search icon and window controls. The user has executed the command 'sudo apt install openssh-server'. The terminal output shows the password prompt, package list reading, dependency tree building, and state information reading. It lists additional packages to be installed: ncurses-term, openssh-sftp-server, and ssh-import-id. Suggested packages include molly-guard, monkeysphere, and ssh-askpass. The terminal shows the installation of new packages, disk space requirements (688 kB), and the start of the download process for ncurses-term, openssh-sftp-server, openssh-server, and ssh-import-id. The download progress is shown as 'Get:1 http://ua.archive.ubuntu.com/ubuntu focal/main amd64 ncurses-term all 6.2-0ubuntu2 [249 kB]', 'Get:2 http://ua.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-sftp-server amd64 1:8.2p1-4ubuntu0.4 [51,5 kB]', 'Get:3 http://ua.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-server amd64 1:8.2p1-4ubuntu0.4 [377 kB]', and 'Get:4 http://ua.archive.ubuntu.com/ubuntu focal/main amd64 ssh-import-id all 5.10-0ubuntu1 [10,0 kB]'. The total size is 688 kB, fetched in 0s at 1395 kB/s. The terminal then shows the preconfiguration of packages, including selecting previously unselected packages and unpacking ncurses-term, openssh-sftp-server, openssh-server, and ssh-import-id. The installation of openssh-sftp-server, openssh-server, and ssh-import-id is also shown.

```
user@user-VirtualBox:~$ sudo apt install openssh-server
[sudo] password for user:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 70 not upgraded.
Need to get 688 kB of archives.
After this operation, 6010 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://ua.archive.ubuntu.com/ubuntu focal/main amd64 ncurses-term all 6.2-0ubuntu2 [249 kB]
Get:2 http://ua.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-sftp-server amd64 1:8.2p1-4ubuntu0.4 [51,5 kB]
Get:3 http://ua.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssh-server amd64 1:8.2p1-4ubuntu0.4 [377 kB]
Get:4 http://ua.archive.ubuntu.com/ubuntu focal/main amd64 ssh-import-id all 5.10-0ubuntu1 [10,0 kB]
Fetched 688 kB in 0s (1395 kB/s)
Preconfiguring packages ...
Selecting previously unselected package ncurses-term.
(Reading database ... 158431 files and directories currently installed.)
Preparing to unpack .../ncurses-term_6.2-0ubuntu2_all.deb ...
Unpacking ncurses-term (6.2-0ubuntu2) ...
Selecting previously unselected package openssh-sftp-server.
Preparing to unpack .../openssh-sftp-server_1%3a8.2p1-4ubuntu0.4_amd64.deb ...
Unpacking openssh-sftp-server (1:8.2p1-4ubuntu0.4) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../openssh-server_1%3a8.2p1-4ubuntu0.4_amd64.deb ...
Unpacking openssh-server (1:8.2p1-4ubuntu0.4) ...
Selecting previously unselected package ssh-import-id.
Preparing to unpack .../ssh-import-id_5.10-0ubuntu1_all.deb ...
Unpacking ssh-import-id (5.10-0ubuntu1) ...
Setting up openssh-sftp-server (1:8.2p1-4ubuntu0.4) ...
Setting up openssh-server (1:8.2p1-4ubuntu0.4) ...
```

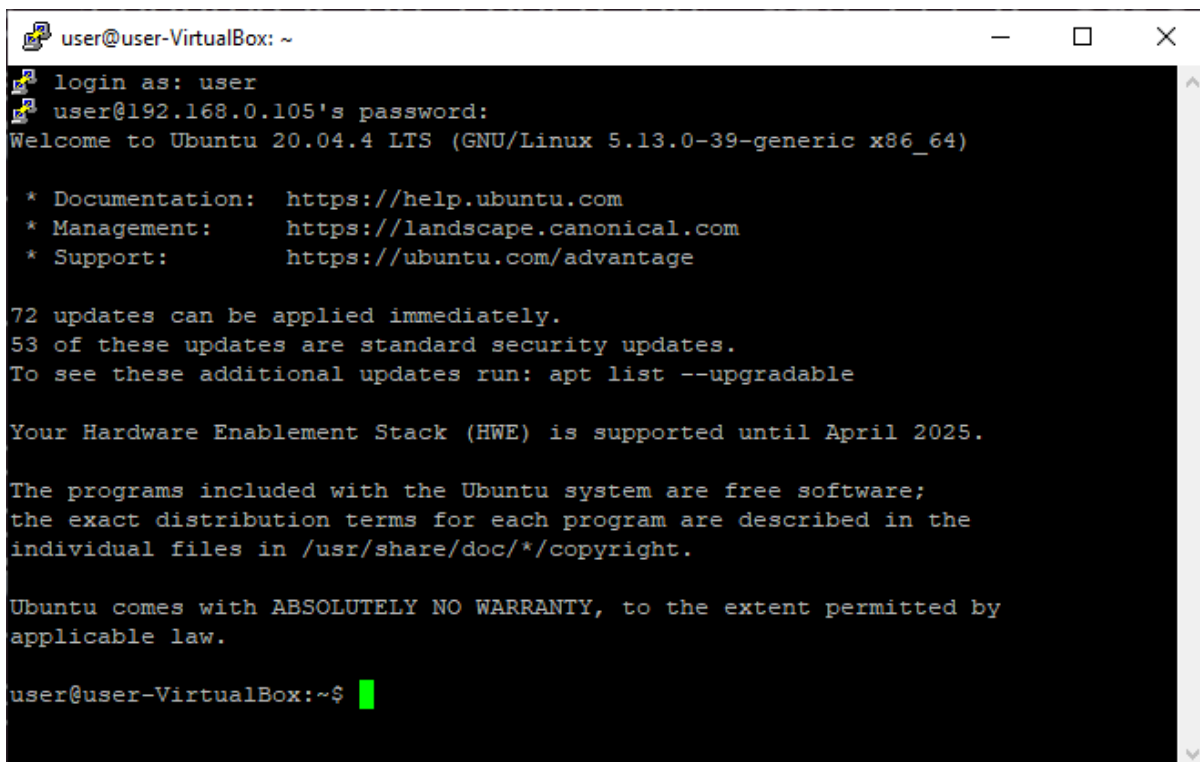
2. Перевірка ip.

```
user@user-VirtualBox:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:0f:9c:83 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.105/24 brd 192.168.0.255 scope global dynamic noprefixroute enp0s3
        valid_lft 5444sec preferred_lft 5444sec
    inet6 fe80::7dc3:94c7:f91:5048/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
```

3. Налаштування PuTTY.



4. Підключення до Ubuntu.



5. Генерація ssh ключа.

The PuTTY Key Generator window displays a newly generated RSA key. The public key is shown in a text area, and the key fingerprint is displayed below it. The key comment is set to 'rsa-key-20220411'. The key passphrase and confirm passphrase fields are empty. The Actions section contains buttons for 'Generate', 'Load', 'Save public key', and 'Save private key'. The Parameters section shows the 'Type of key to generate' set to 'RSA' and the 'Number of bits in a generated key' set to '2048'.

Key

Public key for pasting into OpenSSH authorized_keys file:

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQCAQCA7GWtanwnAx+AfzROfwUoQ/smqqXVi87Fg/zA/nV  
+5iRpabbQ1QUILRsyq0bPDZHH3LcIt8GSfBKM2a2t4yTpb6vI4HR34cL1geVi8TiukjyWCVNQi2nefEK1vuLfs0BNI  
px3BpTGvTeX/KGVWnRfgu/TPHz5K6Yw1bGQYybKxcD4wNH2xPcI8t3660zgKMLX2TWauWJg9XxAXCk/3Q  
Rm7dGPPH+ctac0SMVymR8Mo+uCoTXwx20FXfmStbGCMz7nWx+I/y+B  
+v3/XponjQNm9eyeX2R6UJhTCVXUFY4tXzpkRAkHmvuEdFfreM1kTlwx01y0jDt/SGrrsa-key-20220411
```

Key fingerprint: ssh-rsa 2048 SHA256:13k2NcPseft9Gvr0dtx8InyU51S8vDH+3LcNOvBvQH4

Key comment: rsa-key-20220411

Key passphrase:

Confirm passphrase:

Actions

Generate a public/private key pair Generate

Load an existing private key file Load

Save the generated key Save public key Save private key

Parameters

Type of key to generate:

☒ RSA ☐ DSA ☐ ECDSA ☐ EdDSA ☐ SSH-1 (RSA)

Number of bits in a generated key: 2048

6. Конфігурація для підключення по ssh.

The PuTTY Configuration window shows the 'Session' category selected in the left-hand tree. The 'Basic options for your PuTTY session' section is active. The 'Host Name (or IP address)' is set to 'user@192.168.0.105' and the 'Port' is set to '22'. The 'Connection type' is set to 'SSH'. The 'Load, save or delete a stored session' section shows a list of saved sessions: '192.168.0.105' and 'Default Settings'. The 'Close window on exit' section has 'Only on clean exit' selected. The 'Open' button is highlighted.

PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - SSH
 - Serial
 - Telnet
 - Rlogin
 - SUPDUP

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address) Port

user@192.168.0.105 22

Connection type:

☒ SSH ☐ Serial ☐ Other: Telnet

Load, save or delete a stored session

Saved Sessions

192.168.0.105

Default Settings

192.168.0.105

Load

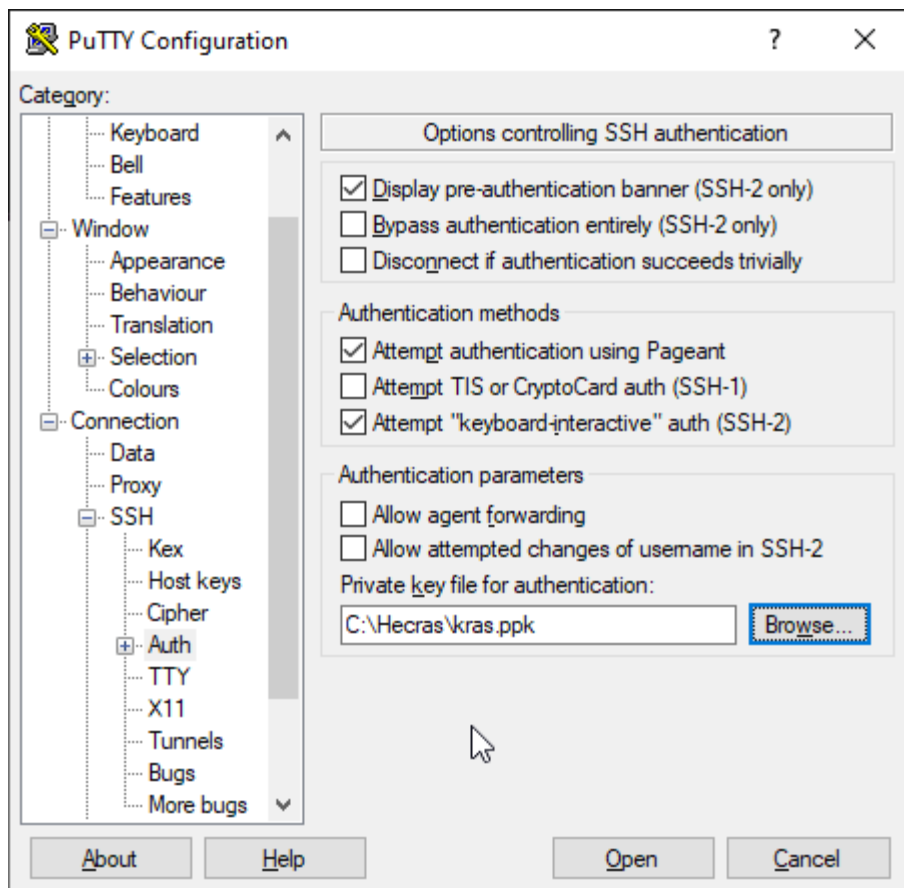
Save

Delete

Close window on exit:

☐ Always ☐ Never ☒ Only on clean exit

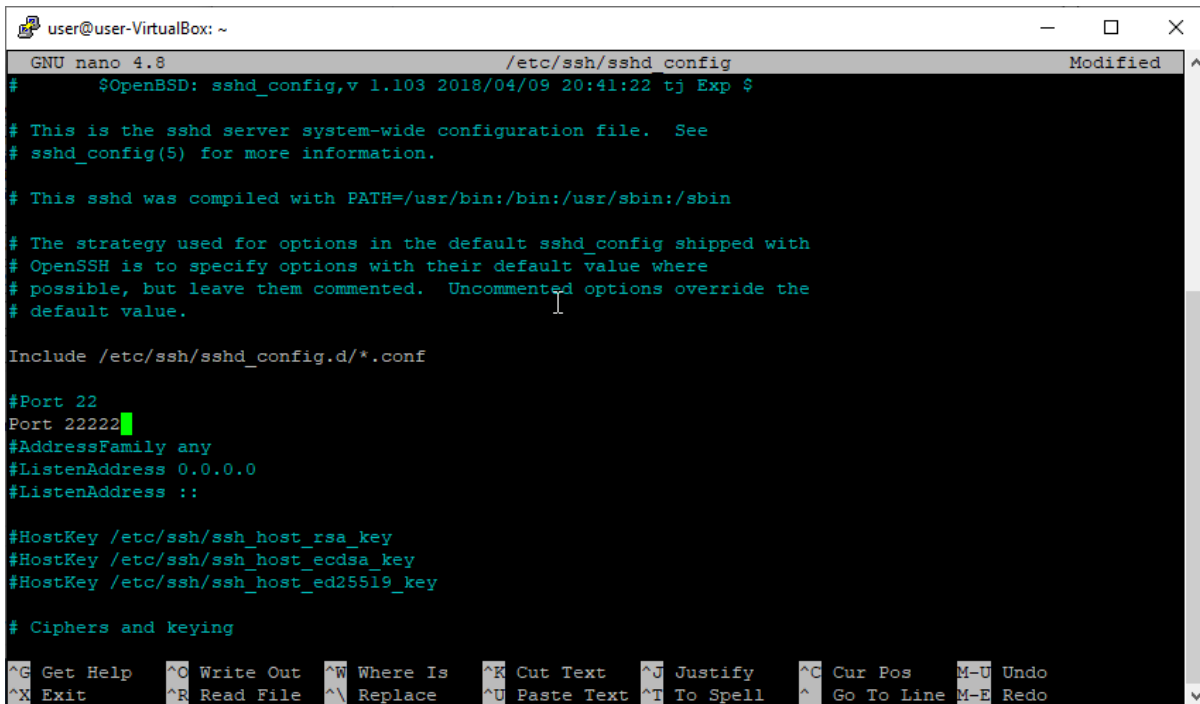
About Help Open Cancel



7. Підключення по ssh.

```
user@user-VirtualBox: ~  
Using username "user".  
Authenticating with public key "rsa-key-20220411"  
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.13.0-39-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
72 updates can be applied immediately.  
53 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Your Hardware Enablement Stack (HWE) is supported until April 2025.  
Last login: Mon Apr 11 17:21:22 2022 from 192.168.0.108  
user@user-VirtualBox:~$
```

8. Додавання нового порту «22222»



```
user@user-VirtualBox: ~
GNU nano 4.8 /etc/ssh/sshd_config Modified
# $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

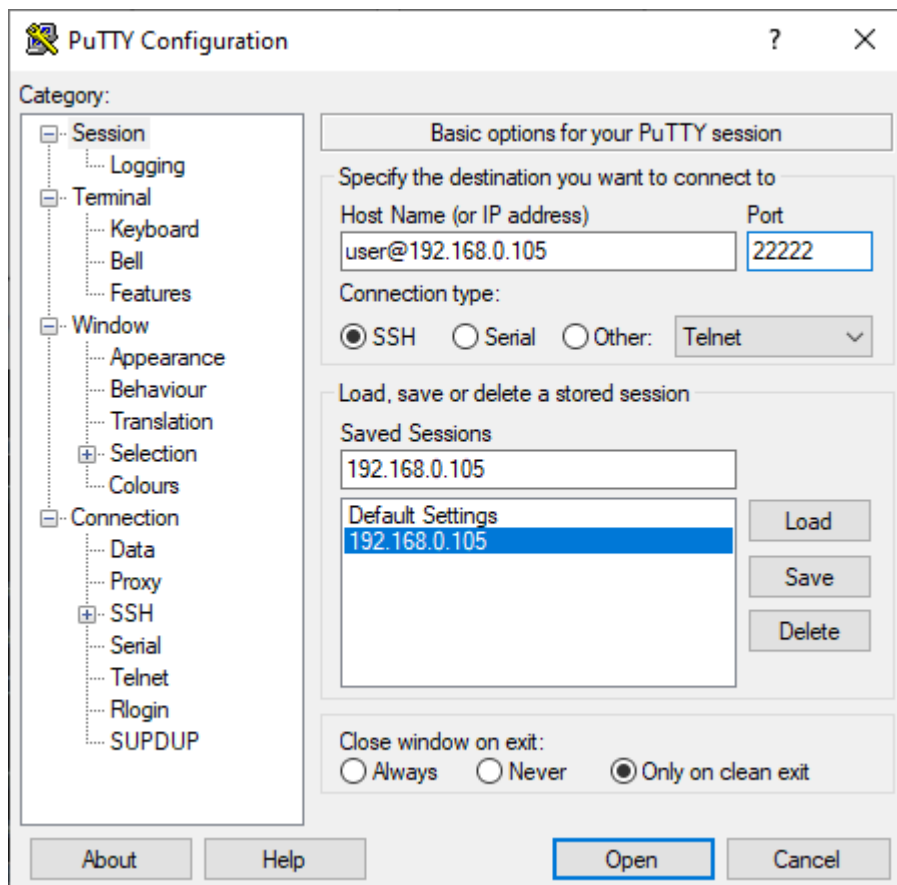
#Port 22
Port 22222
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

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

# Ciphers and keying

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line M-E Redo
```

9. Підключення «Port 22222»



PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - SSH
 - Serial
 - Telnet
 - Rlogin
 - SUPDUP

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address) Port

Connection type:
☒ SSH ☐ Serial ☐ Other:

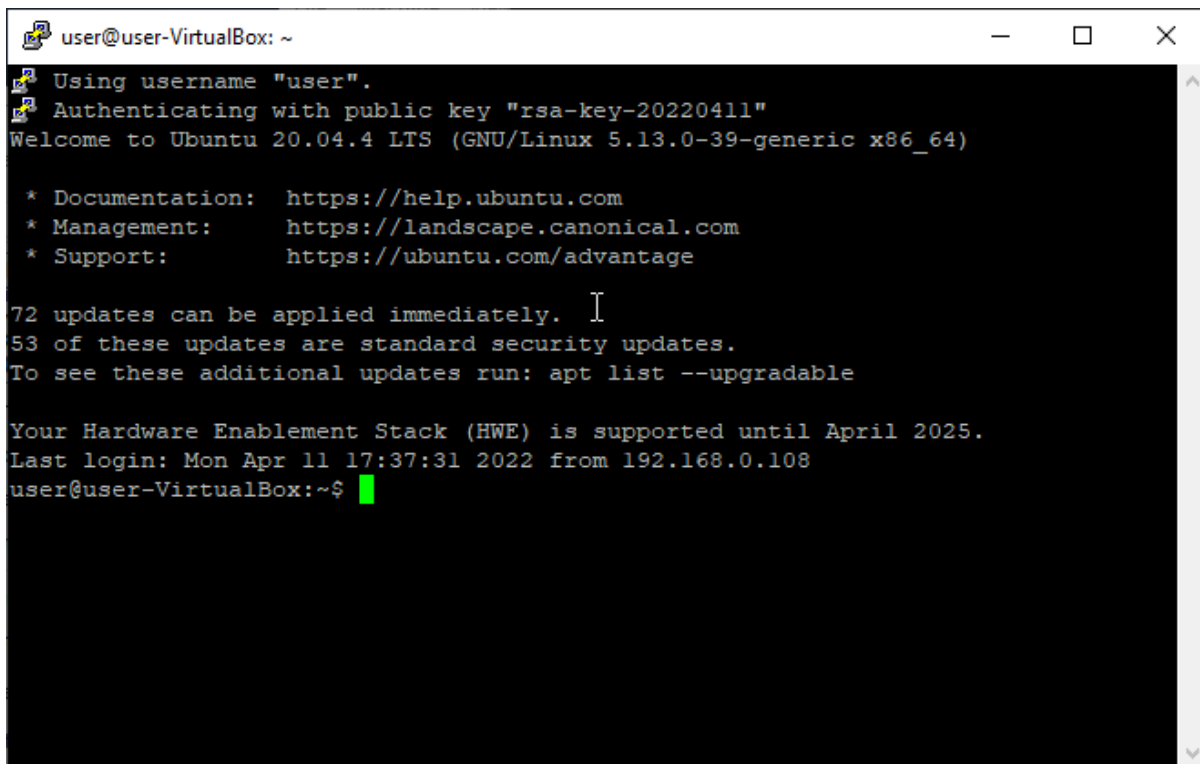
Load, save or delete a stored session

Saved Sessions

192.168.0.105
Default Settings
192.168.0.105

Close window on exit:
☐ Always ☐ Never ☒ Only on clean exit

10. Результат



```
user@user-VirtualBox: ~  
Using username "user".  
Authenticating with public key "rsa-key-20220411"  
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.13.0-39-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
72 updates can be applied immediately. I  
53 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Your Hardware Enablement Stack (HWE) is supported until April 2025.  
Last login: Mon Apr 11 17:37:31 2022 from 192.168.0.108  
user@user-VirtualBox:~$
```