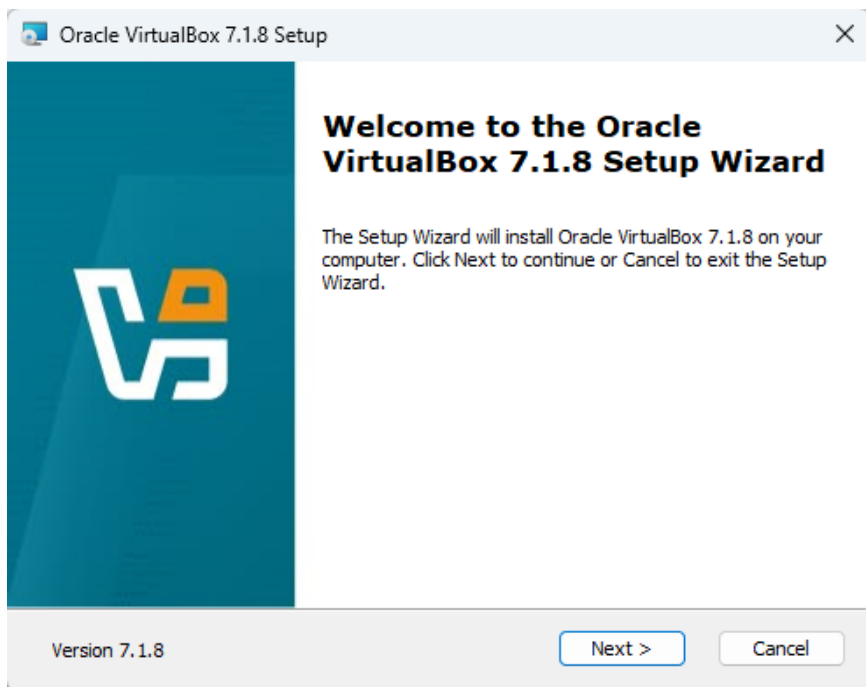


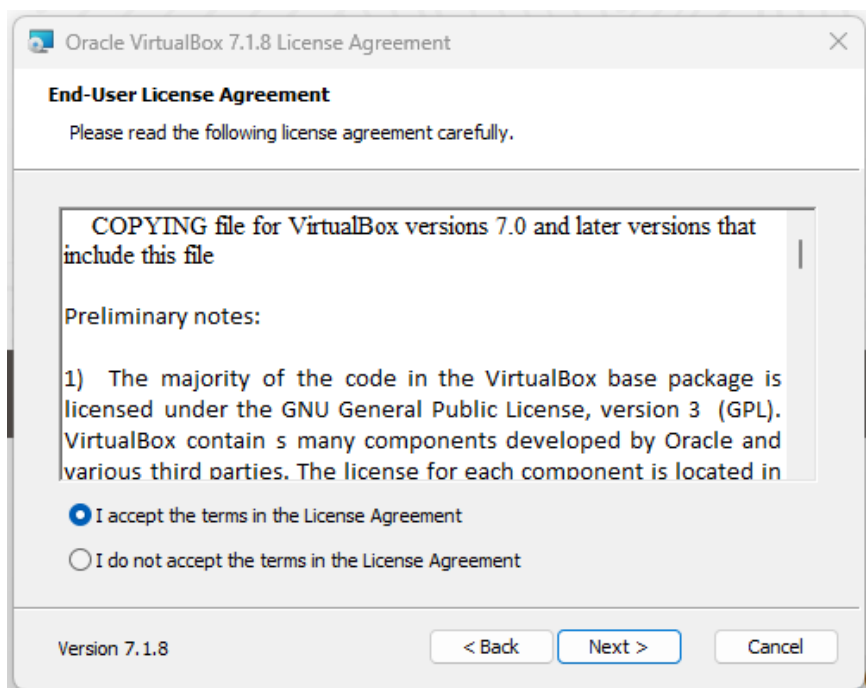
Vježba 4 – Rad na virtualnom stroju (Bojan Alikavazović)

Instalacija VirtualBox rješenja

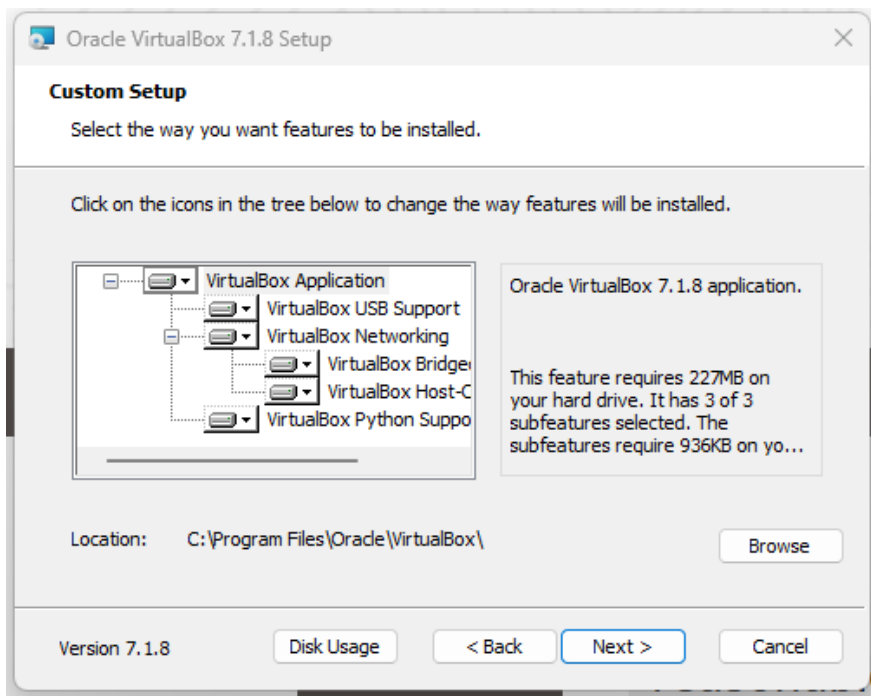
Pokrećemo instalacijski paket za Virtual Box.



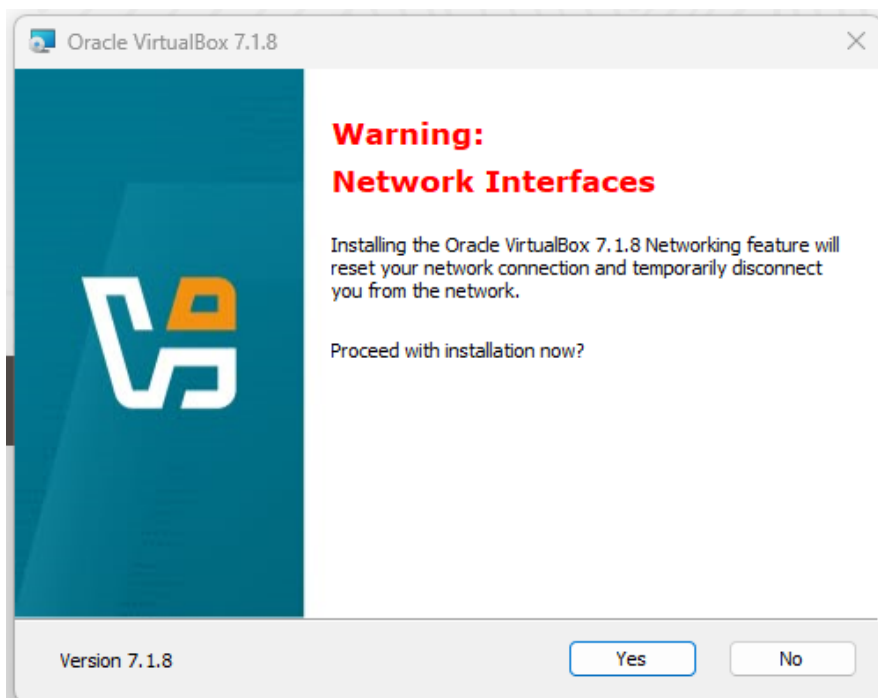
Prihvaćamo licencu.



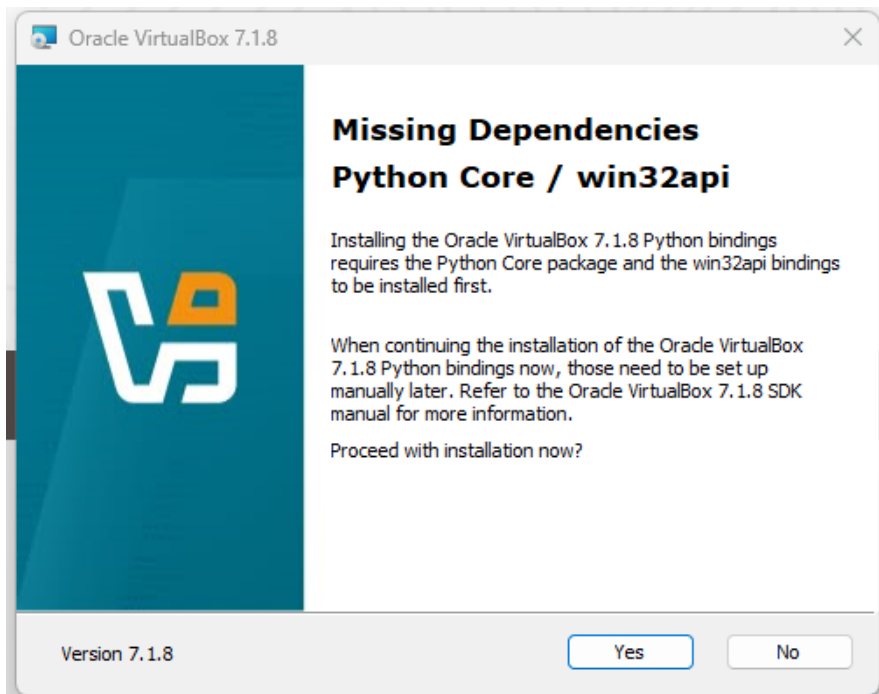
Prihvaćamo predložene konfiguracijske postavke za instalacijske komponente.



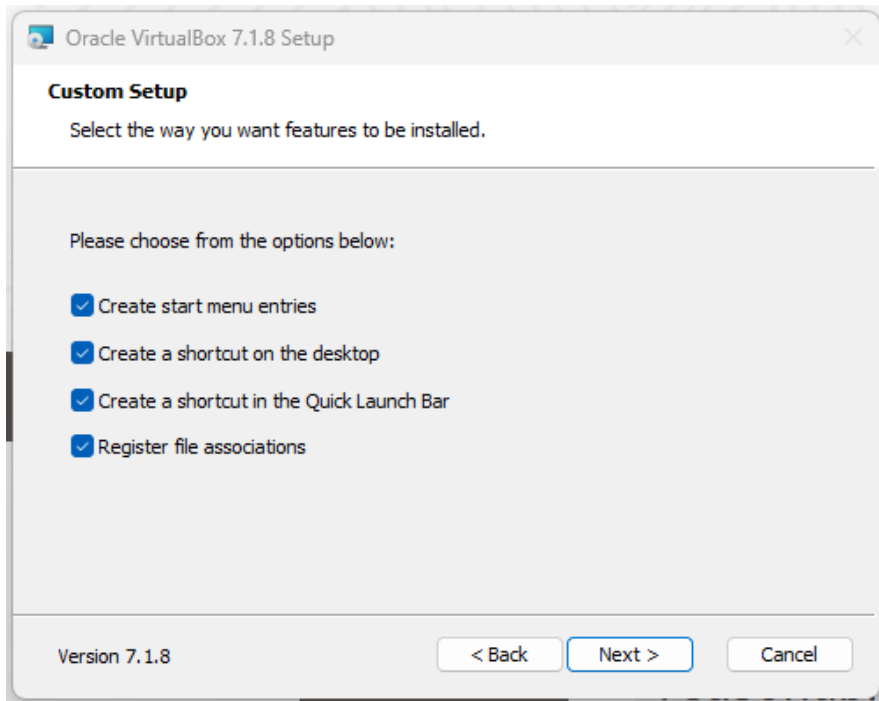
Prihvaćamo upozorenje vezano za promjene na mrežnom sučelju operacijskog sustava na kojeg instaliramo virtualizacijsko okruženje.



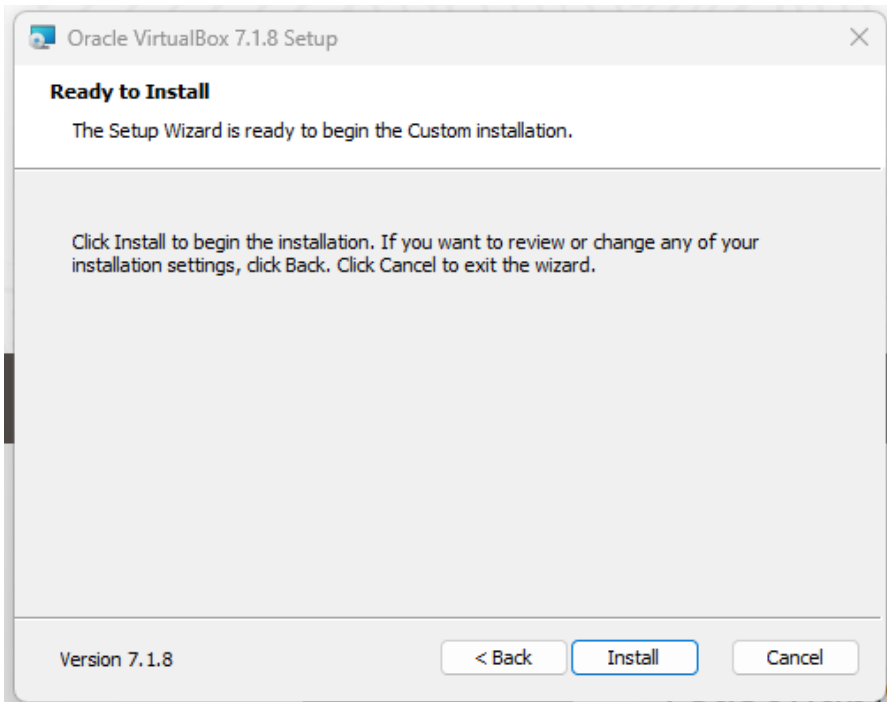
Prihvaćamo instalaciju odgovarajuće verzije Python paketa.



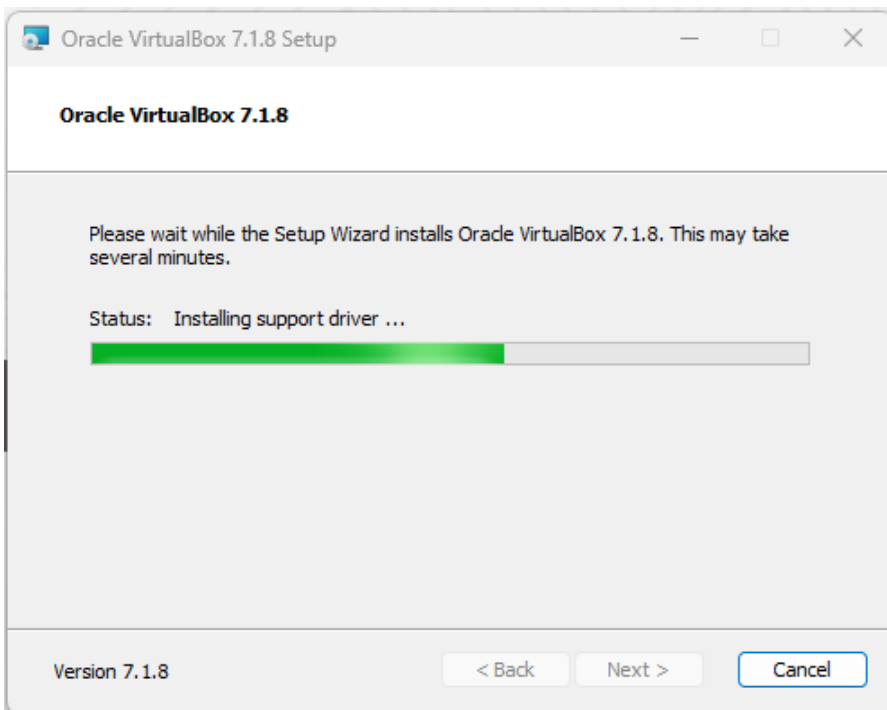
Postavimo dodatne konfiguracijske postavke na operacijski sustav Windows za kraticu na desktop-u i u traci za pokretanje (Quick Launch Bar).



Pokrećemo instalaciju kompletnog paketa prema postavkama koje su definirane u čarobnjaku.

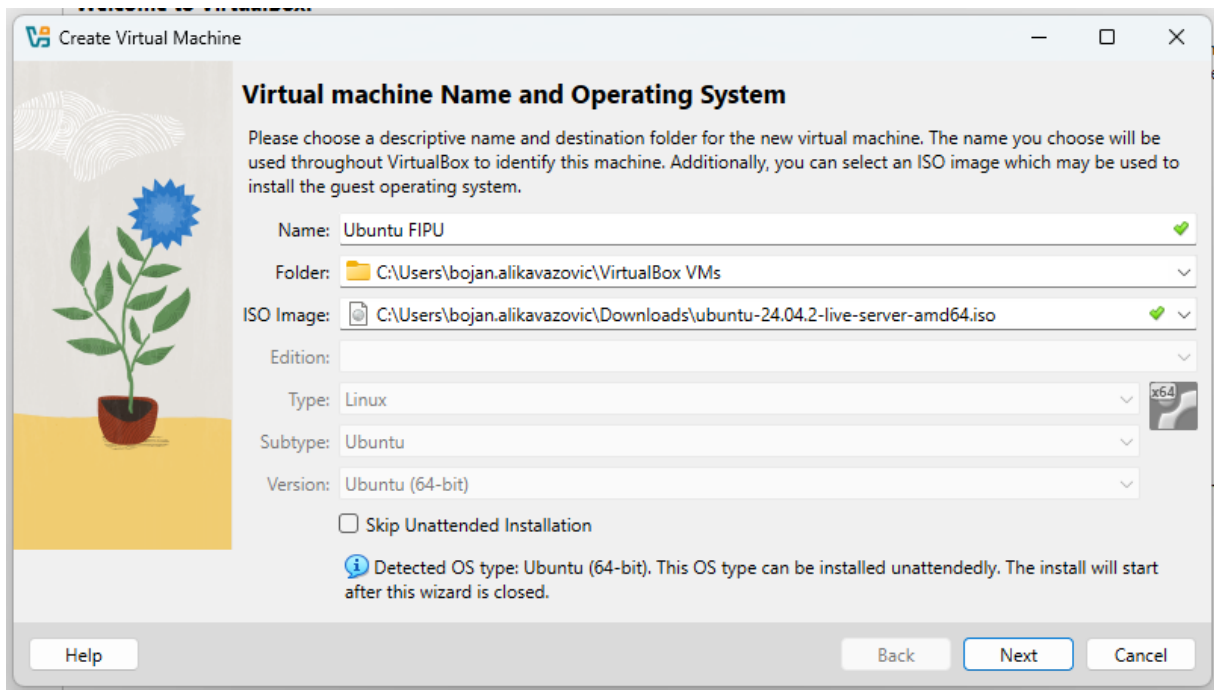


Instalacija je u tijeku.

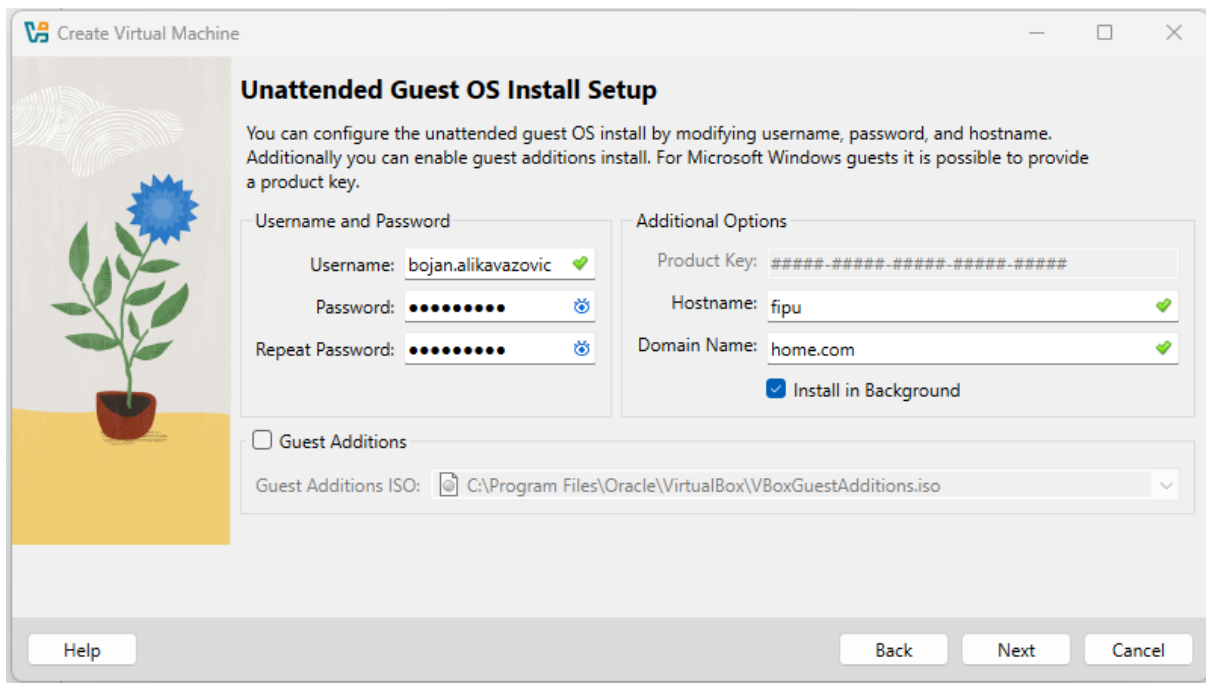


Konfiguracija i instalacija virtualnog stroja

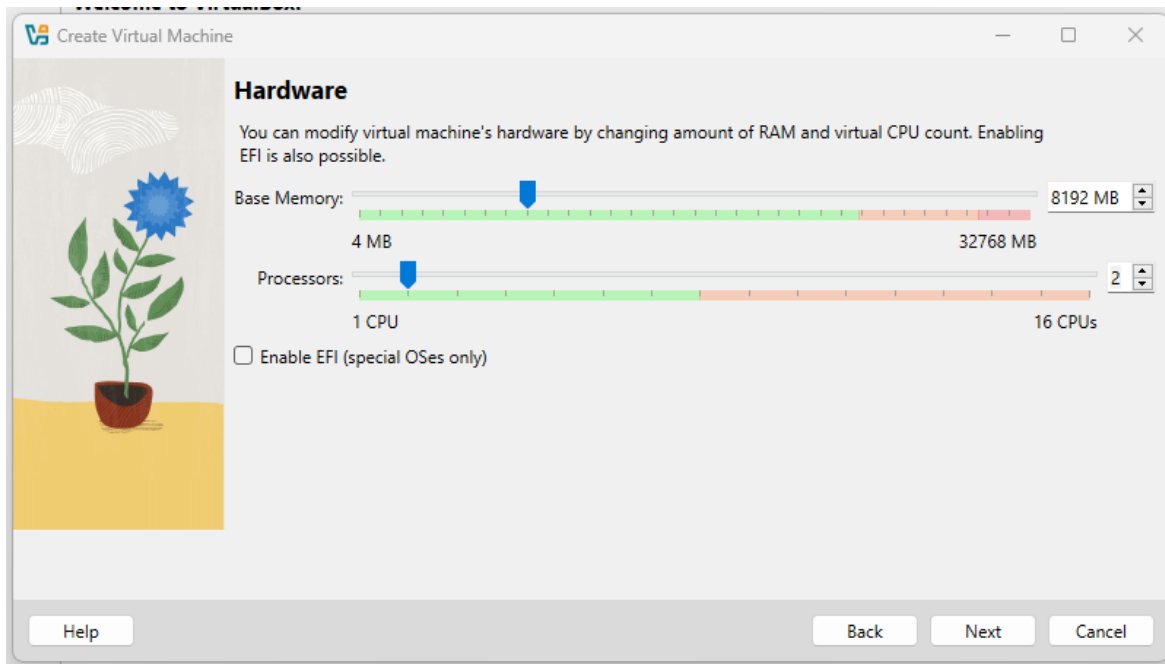
Vršimo konfiguraciju prvog virtualnog stroja odabiranjem odgovarajuće .iso datoteke za Ubuntu server.



Podešavamo korisničko ime i naziv virtualnog stroja.



Dodjeljujemo potrebne resurse za CPU i RAM.



The screenshot shows the 'Create Virtual Machine' window with the 'Hardware' tab selected. On the left is a decorative illustration of a potted plant with a blue flower. The main area contains instructions and sliders for configuring hardware. The 'Base Memory' slider is set to 8192 MB, with a range from 4 MB to 32768 MB. The 'Processors' slider is set to 2, with a range from 1 CPU to 16 CPUs. There is an unchecked checkbox for 'Enable EFI (special OSes only)'. At the bottom are 'Help', 'Back', 'Next', and 'Cancel' buttons.

Create Virtual Machine

Hardware

You can modify virtual machine's hardware by changing amount of RAM and virtual CPU count. Enabling EFI is also possible.

Base Memory: 8192 MB

4 MB 32768 MB

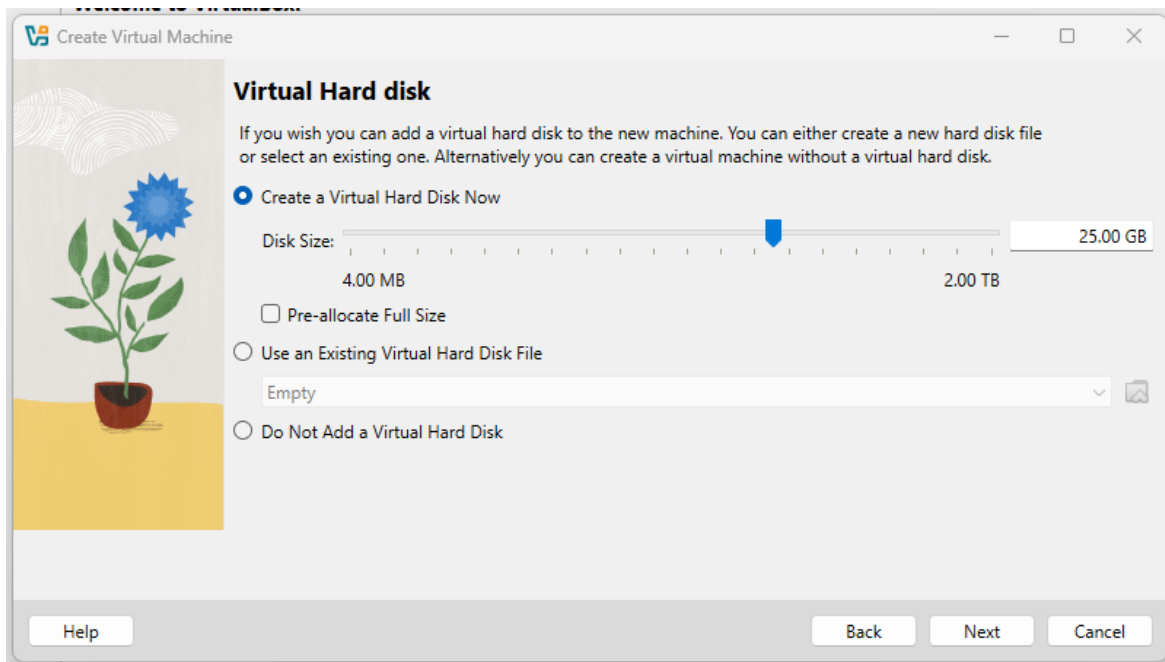
Processors: 2

1 CPU 16 CPUs

☐ Enable EFI (special OSes only)

Help Back Next Cancel

Dodjeljujemo potrebne resurse za disk.



The screenshot shows the 'Create Virtual Machine' window with the 'Virtual Hard disk' tab selected. On the left is the same decorative illustration of a potted plant. The main area contains instructions and options for creating a virtual hard disk. The 'Create a Virtual Hard Disk Now' radio button is selected. The 'Disk Size' slider is set to 25.00 GB, with a range from 4.00 MB to 2.00 TB. There is an unchecked checkbox for 'Pre-allocate Full Size'. The 'Use an Existing Virtual Hard Disk File' radio button is unselected, and its text box shows 'Empty'. The 'Do Not Add a Virtual Hard Disk' radio button is unselected. At the bottom are 'Help', 'Back', 'Next', and 'Cancel' buttons.

Create Virtual Machine

Virtual Hard disk

If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select an existing one. Alternatively you can create a virtual machine without a virtual hard disk.

☒ Create a Virtual Hard Disk Now

Disk Size: 25.00 GB

4.00 MB 2.00 TB

☐ Pre-allocate Full Size

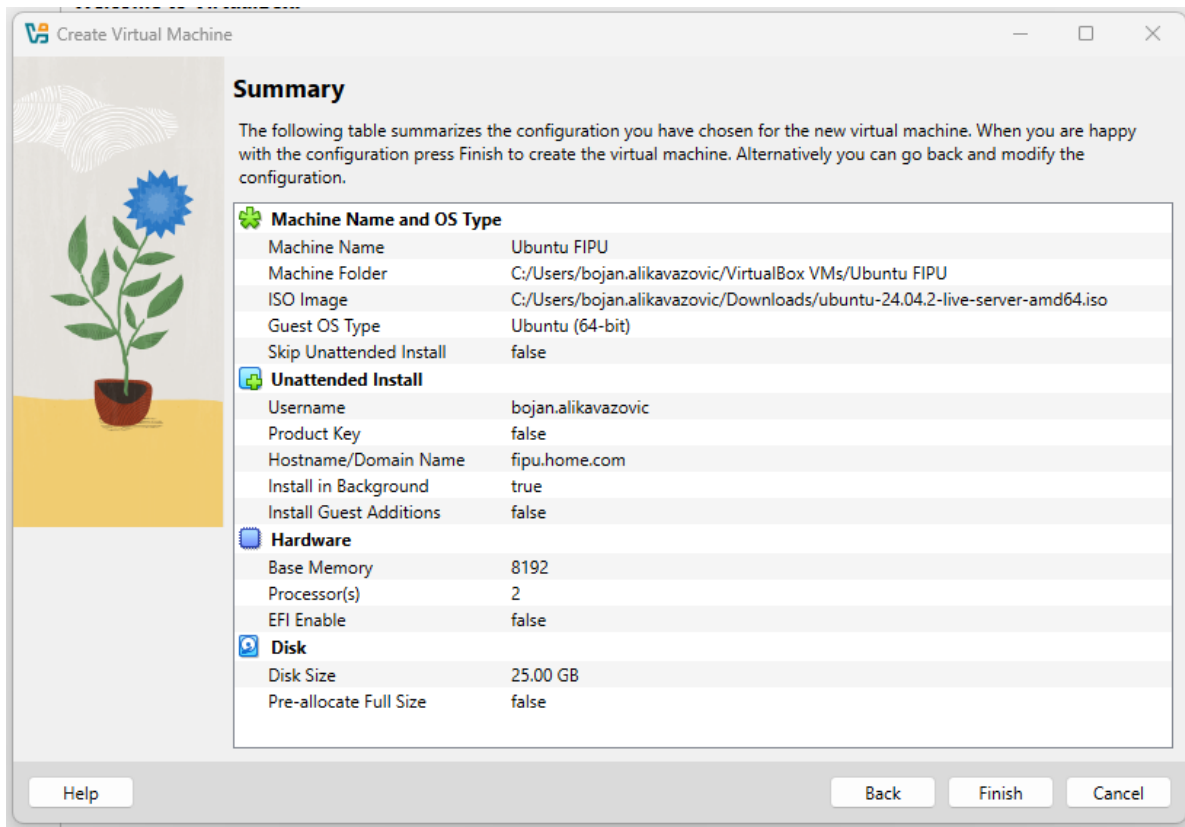
☐ Use an Existing Virtual Hard Disk File

Empty

☐ Do Not Add a Virtual Hard Disk

Help Back Next Cancel

Na kraju imamo pregled svih konfiguracijskih parametara za virtualizirani stroj.



Create Virtual Machine

Summary

The following table summarizes the configuration you have chosen for the new virtual machine. When you are happy with the configuration press Finish to create the virtual machine. Alternatively you can go back and modify the configuration.

Machine Name and OS Type	
Machine Name	Ubuntu FIPU
Machine Folder	C:/Users/bojan.alikavazovic/VirtualBox VMs/Ubuntu FIPU
ISO Image	C:/Users/bojan.alikavazovic/Downloads/ubuntu-24.04.2-live-server-amd64.iso
Guest OS Type	Ubuntu (64-bit)
Skip Unattended Install	false

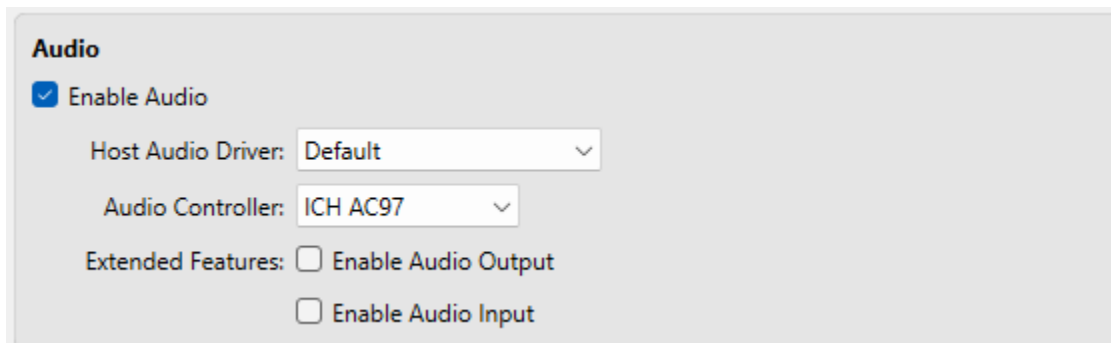
Unattended Install	
Username	bojan.alikavazovic
Product Key	false
Hostname/Domain Name	fipu.home.com
Install in Background	true
Install Guest Additions	false

Hardware	
Base Memory	8192
Processor(s)	2
EFI Enable	false

Disk	
Disk Size	25.00 GB
Pre-allocate Full Size	false

Help Back Finish Cancel

Dodatno vršimo konfiguraciju zvučne kartice. Isključujemo ju obzirom da neće biti potrebna za rad.



Audio

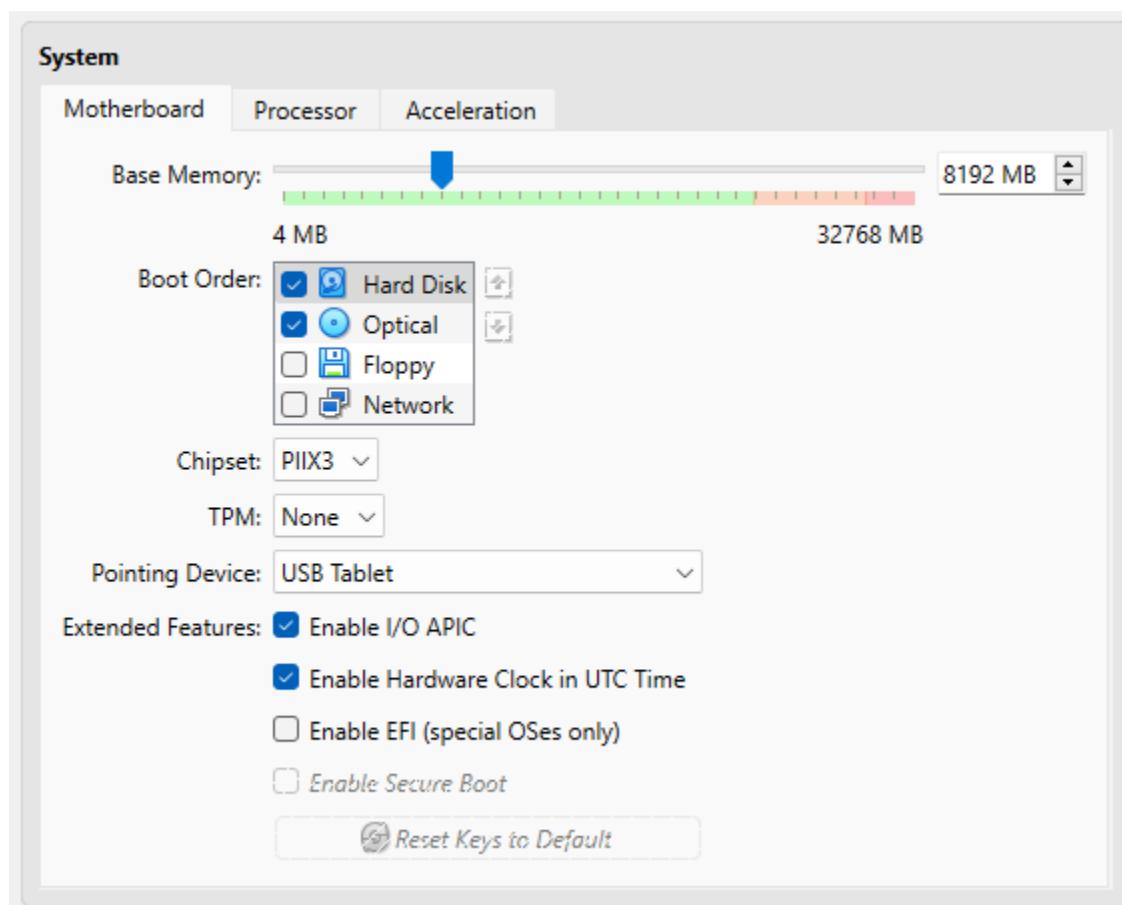
☒ Enable Audio

Host Audio Driver: Default

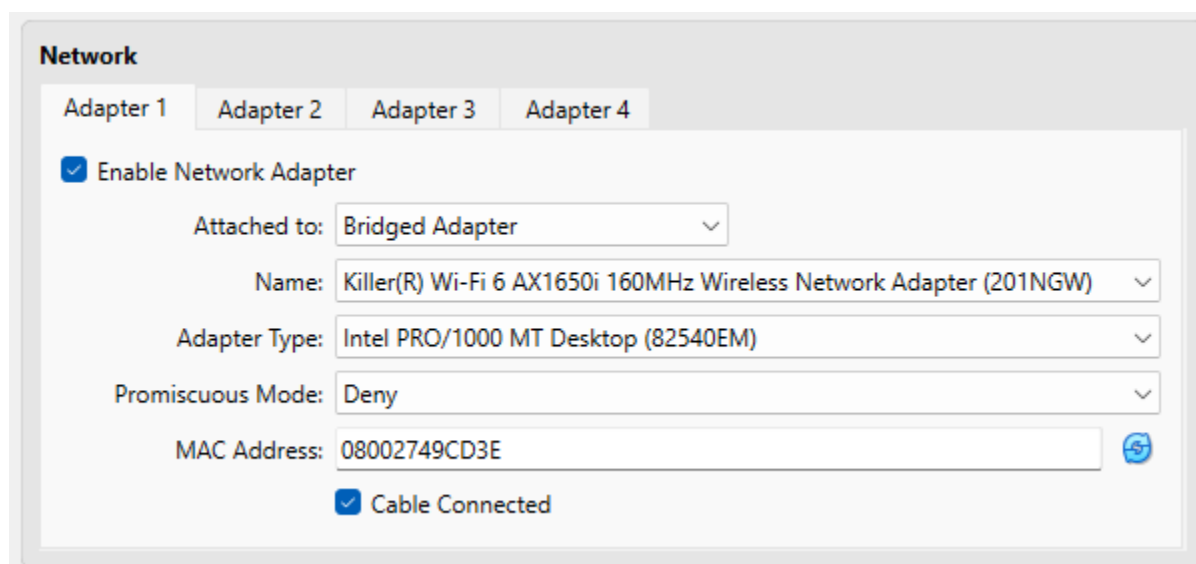
Audio Controller: ICH AC97

Extended Features: ☐ Enable Audio Output ☐ Enable Audio Input

Isključujemo i Floppy disk.



Postavljamo mrežni adapter u Bridged mode.



Rad u virtualnom stroju.

Vršimo provjeru korisničkog imena i naziva virtualnog stroja sa naredbama:

whoami

hostname

```
bojan.alikavazovic@fipu:~$ whoami
bojan.alikavazovic
bojan.alikavazovic@fipu:~$ hostname
fipu
bojan.alikavazovic@fipu:~$ _
```

Pregledavamo konfiguraciju IP adrese na adapteru enp0s3, vidljivo je da nema IP adrese jer u LAN mreži nemam aktiviran DHCP servis.

ip a

```
root@fipu:/home/bojan.alikavazovic# 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 noprefixroute
        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 08:00:27:49:cd:3e brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe49:cd3e/64 scope link
        valid_lft forever preferred_lft forever
root@fipu:/home/bojan.alikavazovic# _
```

Ručno sam postavio IP adresu u odgovarajuću konfiguracijsku datoteku na putanji **/etc/netplan/**.

```
root@fipu:/etc/netplan# more 50-cloud-init.yaml
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3:
      dhcp4: no
      addresses:
        - 192.168.10.23/24
      routes:
        - to: 0.0.0.0/0
          via: 192.168.10.1
      nameservers:
        addresses:
          - 8.8.8.8
          - 8.8.4.4
root@fipu:/etc/netplan#
```

Primijenio sam na adapter novu konfiguraciju sa naredbom:

netplan apply

Dodatno sam provjerio spoj virtualnog stroja sa internetom sa naredbom

ping 4.2.2.2 -c 5

```
root@fipu:/etc/netplan# ping 4.2.2.2 -c 5
PING 4.2.2.2 (4.2.2.2) 56(84) bytes of data.
64 bytes from 4.2.2.2: icmp_seq=1 ttl=51 time=26.7 ms
64 bytes from 4.2.2.2: icmp_seq=2 ttl=51 time=27.8 ms
64 bytes from 4.2.2.2: icmp_seq=3 ttl=51 time=25.8 ms
64 bytes from 4.2.2.2: icmp_seq=4 ttl=51 time=26.2 ms
64 bytes from 4.2.2.2: icmp_seq=5 ttl=51 time=26.5 ms

--- 4.2.2.2 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4008ms
rtt min/avg/max/mdev = 25.801/26.589/27.789/0.673 ms
```

Provjerio sam i ispravnost DNS servisa sa naredbom:

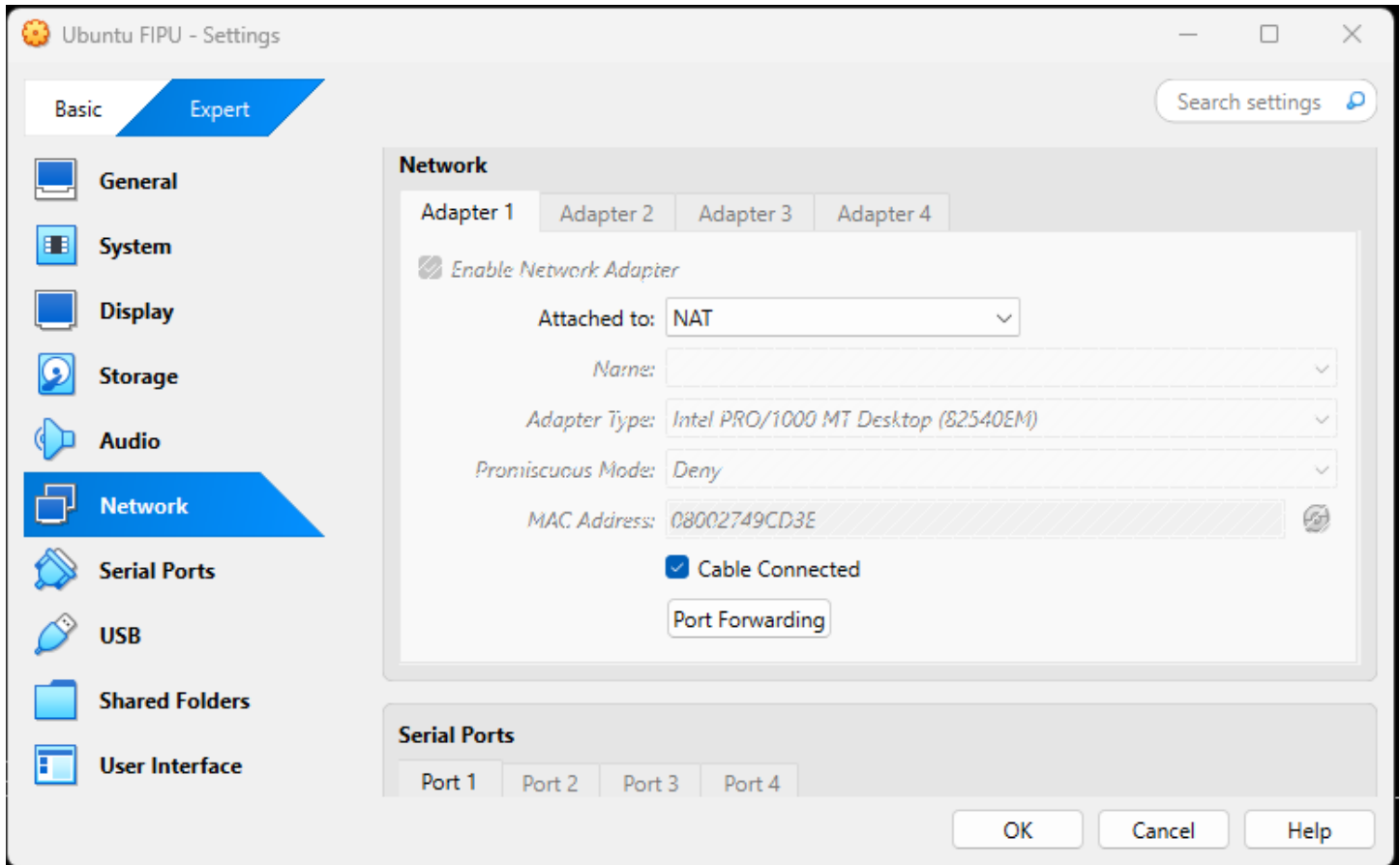
ping unipu.hr

```
root@fipu:/etc/netplan# ping unipu.hr
PING unipu.hr (31.147.206.15) 56(84) bytes of data.
64 bytes from pellicus2.unipu.hr (31.147.206.15): icmp_seq=1 ttl=242 time=15.3 ms
64 bytes from pellicus2.unipu.hr (31.147.206.15): icmp_seq=2 ttl=242 time=33.1 ms
64 bytes from pellicus2.unipu.hr (31.147.206.15): icmp_seq=3 ttl=242 time=15.0 ms
64 bytes from pellicus2.unipu.hr (31.147.206.15): icmp_seq=4 ttl=242 time=14.9 ms
^C
--- unipu.hr ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3010ms
rtt min/avg/max/mdev = 14.872/19.565/33.135/7.835 ms
```

Virtualni stroj ima uredan pristup internetu.

NAT podešavanje

Podešena je mrežna kartica da radi u NAT modu.



Obzirom da VirtualBox sam kreira novi LAN subnet i u njemu aktivira DHCP servis, konfigurirao sam mrežnu karticu tako da automatski preuzima IP adresu od DHCP servisa.

```
root@fipu:/etc/netplan# more 50-cloud-init.yaml
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3:
      dhcp4: true
root@fipu:/etc/netplan#
```

netplan apply

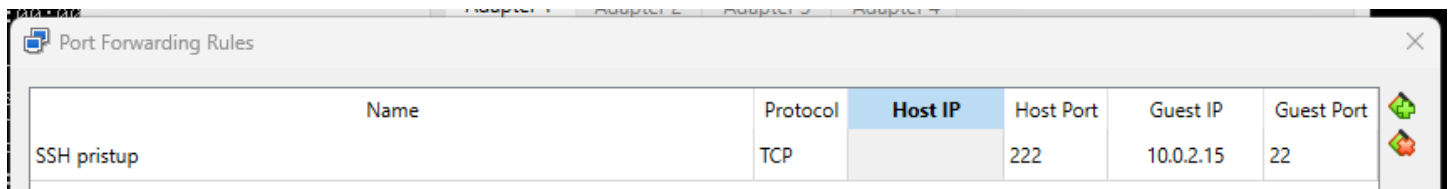
Provjerio sam IP adresu sa naredbom

ip a

```
root@fipu:/etc/netplan# 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 noprefixroute
        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 08:00:27:49:cd:3e brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 metric 100 brd 10.0.2.255 scope global dynamic enp0s3
        valid_lft 86400sec preferred_lft 86400sec
    inet6 fe80::a00:27ff:fe49:cd3e/64 scope link
        valid_lft forever preferred_lft forever
```

Vidljivo je da je virtualni stroj dobio IP adresu od DHCP-a.

Za pristup SSH servisu konfigurirao sam odgovarajuću Port Forwarding konfiguraciju na mrežnom adapteru u Virtual Box-u.



Name	Protocol	Host IP	Host Port	Guest IP	Guest Port
SSH pristup	TCP		222	10.0.2.15	22

Osvježavanje liste novih nadogradnji sam odradio sa naredbom:

apt update

```
root@fipu:/etc/netplan# apt update
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://hr.archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://hr.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://hr.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://hr.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,090 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:8 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.2 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 B]
Get:10 http://hr.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [161 kB]
Get:11 http://hr.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:12 http://hr.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1,062 kB]
Get:13 http://hr.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [376 kB]
Get:14 http://hr.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:15 http://hr.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7,068 B]
Get:16 http://hr.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:17 http://hr.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [16.4 kB]
Get:18 http://hr.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 3,167 kB in 2s (1,765 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
64 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

Zatim nadogradnju svega sa

apt upgrade

```
Unpacking iwlw (2.03.16-3ubuntu3.2) over (2.03.16-3ubuntu3.1) ...
Preparing to unpack .../46-pollinate_4.33-3.1ubuntu1.1_all.deb ...
Unpacking pollinate (4.33-3.1ubuntu1.1) over (4.33-3.1ubuntu1) ...
Preparing to unpack .../47-software-properties-common_0.99.49.2_all.deb ...
Unpacking software-properties-common (0.99.49.2) over (0.99.49.1) ...
Preparing to unpack .../48-python3-software-properties_0.99.49.2_all.deb ...
Unpacking python3-software-properties (0.99.49.2) over (0.99.49.1) ...
Preparing to unpack .../49-snapd_2.67.1+24.04_amd64.deb ...
Unpacking snapd (2.67.1+24.04) over (2.66.1+24.04) ...
Preparing to unpack .../50-sosreport_4.8.2-0ubuntu0~24.04.1_amd64.deb ...
Unpacking sosreport (4.8.2-0ubuntu0~24.04.1) over (4.7.2-0ubuntu1~24.04.2) ...
Preparing to unpack .../51-cloud-init_24.4.1-0ubuntu0~24.04.3_all.deb ...
Unpacking cloud-init (24.4.1-0ubuntu0~24.04.3) over (24.4-0ubuntu1~24.04.2) ...
Setting up libapparmor1:amd64 (4.0.1really4.0.1-0ubuntu0.24.04.4) ...
Setting up pci.ids (0.0~2024.03.31-1ubuntu0.1) ...
Setting up linux-base (4.5ubuntu9+24.04.1) ...
Setting up python3-problem-report (2.28.1-0ubuntu3.5) ...
Setting up distro-info-data (0.60ubuntu0.3) ...
Setting up update-notifier-common (3.192.68.1) ...
update-notifier-download.service is a disabled or a static unit not running, not starting it.
update-notifier-motd.service is a disabled or a static unit not running, not starting it.
Setting up libfwupd2:amd64 (1.9.29-0ubuntu1~24.04.1ubuntu1) ...
Setting up rsyslog (8.2312.0-3ubuntu9.1) ...
Installing new version of config file /etc/apparmor.d/usr.sbin.rsyslogd ...
info: The user 'syslog' is already a member of 'adm'.
Setting up libpackagekit-glib2-18:amd64 (1.2.8-2ubuntu1.2) ...
Setting up systemd-dev (255.4-1ubuntu8.6) ...
Setting up libnetplan1:amd64 (1.1.2-2~ubuntu24.04.1) ...
Setting up landscape-common (24.02-0ubuntu5.3) ...

Progress: [ 60%] [#####.....]
```

Zatim instalaciju SSH servisa.

apt install openssh-server

```
Preconfiguring packages ...
Selecting previously unselected package openssh-sftp-server.
(Reading database ... 83940 files and directories currently installed.)
Preparing to unpack .../openssh-sftp-server_1%3a9.6p1-3ubuntu13.11_amd64.deb ...
Unpacking openssh-sftp-server (1:9.6p1-3ubuntu13.11) ...
Selecting previously unselected package libwrap0:amd64.
Preparing to unpack .../libwrap0_7.6.q-33_amd64.deb ...
Unpacking libwrap0:amd64 (7.6.q-33) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../openssh-server_1%3a9.6p1-3ubuntu13.11_amd64.deb ...
Unpacking openssh-server (1:9.6p1-3ubuntu13.11) ...
Selecting previously unselected package ncurses-term.
Preparing to unpack .../ncurses-term_6.4+20240113-1ubuntu2_all.deb ...
Unpacking ncurses-term (6.4+20240113-1ubuntu2) ...
Selecting previously unselected package ssh-import-id.
Preparing to unpack .../ssh-import-id_5.11-0ubuntu2.24.04.1_all.deb ...
Unpacking ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Setting up openssh-sftp-server (1:9.6p1-3ubuntu13.11) ...
Setting up ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Setting up libwrap0:amd64 (7.6.q-33) ...
Setting up ncurses-term (6.4+20240113-1ubuntu2) ...
Setting up openssh-server (1:9.6p1-3ubuntu13.11) ...

Creating config file /etc/ssh/sshd_config with new version
Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket.
Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...
Scanning processes...
Scanning candidates...
Scanning linux images...
```

Sa sljedećim setom naredbi sam provjerio i aktivirao SSH servis.

systemctl status ssh

systemctl start ssh

systemctl status ssh

```
root@fipu:/etc/netplan# systemctl status ssh
* ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
   Active: inactive (dead)
TriggeredBy: ● ssh.socket
   Docs: man:sshd(8)
        man:sshd_config(5)
root@fipu:/etc/netplan# systemctl start ssh
root@fipu:/etc/netplan# systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
   Active: active (running) since Sun 2025-05-18 15:00:15 UTC; 1s ago
TriggeredBy: ● ssh.socket
   Docs: man:sshd(8)
        man:sshd_config(5)
  Process: 15922 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
 Main PID: 15923 (sshd)
    Tasks: 1 (limit: 9441)
  Memory: 1.2M (peak: 1.3M)
     CPU: 17ms
  CGroup: /system.slice/ssh.service
          └─15923 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

May 18 15:00:15 fipu systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
May 18 15:00:15 fipu sshd[15923]: Server listening on :: port 22.
May 18 15:00:15 fipu systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
```

Vratio sam se u bridge mode i s njim odradio isto tako spajanje na SSH servis. Provera IP adrese.

ip a

```
root@fipu:/etc/netplan# 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 noprefixroute
        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 08:00:27:49:cd:3e brd ff:ff:ff:ff:ff:ff
    inet 192.168.10.23/24 brd 192.168.10.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe49:cd3e/64 scope link
        valid_lft forever preferred_lft forever
```

Provjera servisa koji radi na SSH portu 22 (vidi se i port i naziv servisa, dodatni flag -n)

ss -tul

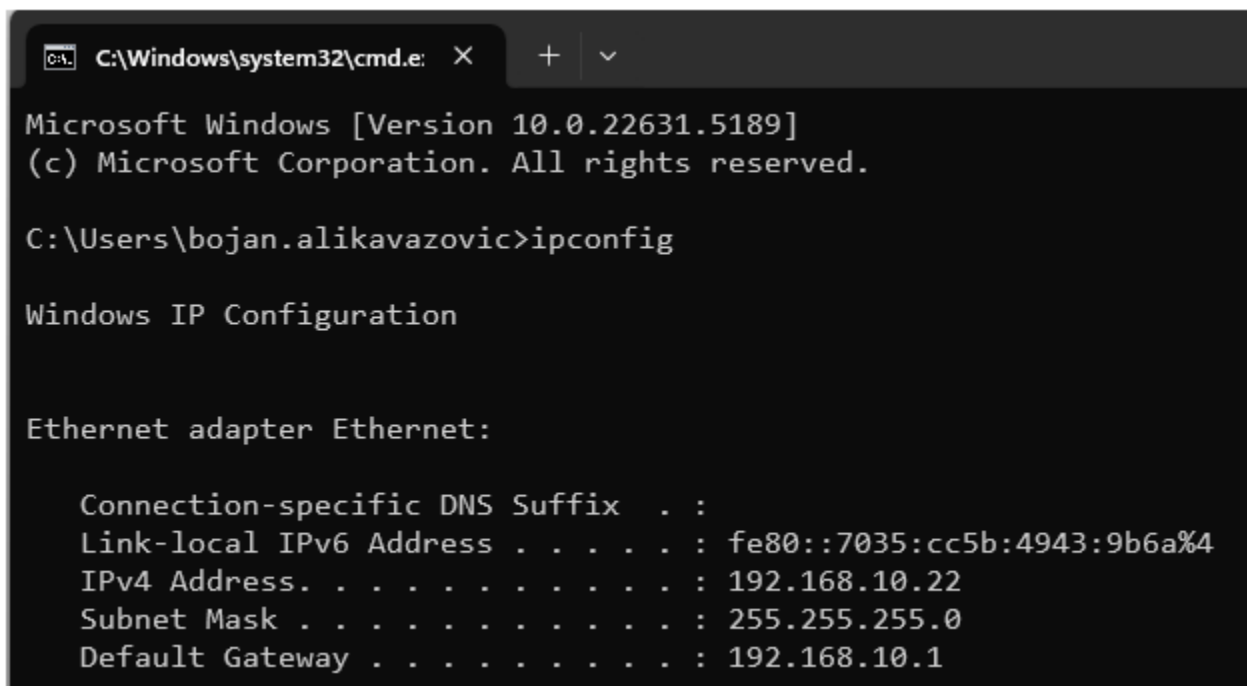
```
root@fipu:/etc/netplan# ss -tul
Netid      State      Recv-Q     Send-Q     Local Address:Port
udp        UNCONN     0           0           127.0.0.54:domain
udp        UNCONN     0           0           127.0.0.53%lo:domain
tcp        LISTEN     0           4096       127.0.0.53%lo:domain
tcp        LISTEN     0           4096       127.0.0.54:domain
tcp        LISTEN     0           4096       *:ssh
```

ss -tuln

```
root@fipu:/etc/netplan# ss -tuln
Netid      State      Recv-Q     Send-Q     Local Address:Port
udp        UNCONN     0           0           127.0.0.54:53
udp        UNCONN     0           0           127.0.0.53%lo:53
tcp        LISTEN     0           4096       127.0.0.53%lo:53
tcp        LISTEN     0           4096       127.0.0.54:53
tcp        LISTEN     0           4096       *:22
```

Sa Window stroja sam pristupio na virtualni putem SSH servisa. Ovo je IP adresa Windowsa.

ifconfig



```
C:\Windows\system32\cmd.e: X + v
Microsoft Windows [Version 10.0.22631.5189]
(c) Microsoft Corporation. All rights reserved.

C:\Users\bojan.alikavazovic>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::7035:cc5b:4943:9b6a%4
    IPv4 Address. . . . . : 192.168.10.22
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.10.1
```

Spojio sam se na virtualku i sa netstat aplikacijom provjerio ispravnost SSH uspostavljene veze, vidi se ESTABLISHED.

Screenshot terminala domaćina (SSH klijenta)

```
root@fipu: /home/bojan.alika X + v
root@fipu:/home/bojan.alikavazovic# netstat -antpu
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp      0      0 127.0.0.53:53           0.0.0.0:*                LISTEN      5286/systemd-resolv
tcp      0      0 127.0.0.54:53           0.0.0.0:*                LISTEN      5286/systemd-resolv
tcp6      0      0 :::22                   :::*                    LISTEN      1/systemd
tcp6      0      0 192.168.10.23:22        192.168.10.22:62214     ESTABLISHED 16115/sshd: bojan.a
udp      0      0 127.0.0.54:53           0.0.0.0:*                5286/systemd-resolv
udp      0      0 127.0.0.53:53           0.0.0.0:*                5286/systemd-resolv
root@fipu:/home/bojan.alikavazovic# |
```


Izradio sam odgovarajuću skriptu na virtualnom stroju kroz SSH.

chmod +x skripta.sh

more skripta.sh

./skripta.sh

```
root@fipu: /home/bojan.alika X + v
root@fipu:/home/bojan.alikavazovic# chmod +x skripta.sh
root@fipu:/home/bojan.alikavazovic# more skripta.sh
#!/bin/sh

ls -la /
root@fipu:/home/bojan.alikavazovic# ./skripta.sh
total 88
drwxr-xr-x 23 root root 4096 May 16 04:16 .
drwxr-xr-x 23 root root 4096 May 16 04:16 ..
lrwxrwxrwx 1 root root 7 Apr 22 2024 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged
drwxr-xr-x 3 root root 4096 May 18 14:57 boot
dr-xr-xr-x 2 root root 4096 May 16 04:16 cdrom
drwxr-xr-x 19 root root 4040 May 18 14:33 dev
drwxr-xr-x 108 root root 4096 May 18 14:58 etc
drwxr-xr-x 3 root root 4096 May 16 04:21 home
lrwxrwxrwx 1 root root 7 Apr 22 2024 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Apr 22 2024 lib64 -> usr/lib64
drwxr-xr-x 2 root root 4096 Feb 26 2024 lib.usr-is-merged
drwx----- 2 root root 16384 May 16 04:17 lost+found
drwxr-xr-x 2 root root 4096 Feb 16 20:51 media
drwxr-xr-x 2 root root 4096 Feb 16 20:51 mnt
drwxr-xr-x 2 root root 4096 Feb 16 20:51 opt
dr-xr-xr-x 187 root root 0 May 18 14:33 proc
drwx----- 4 root root 4096 May 18 15:00 root
drwxr-xr-x 30 root root 920 May 18 15:07 run
lrwxrwxrwx 1 root root 8 Apr 22 2024 sbin -> usr/sbin
drwxr-xr-x 2 root root 4096 Aug 22 2024 sbin.usr-is-merged
drwxr-xr-x 2 root root 4096 May 16 04:21 snap
drwxr-xr-x 2 root root 4096 Feb 16 20:51 srv
dr-xr-xr-x 13 root root 0 May 18 15:10 sys
drwxrwxrwt 14 root root 4096 May 18 15:06 tmp
drwxr-xr-x 12 root root 4096 Feb 16 20:51 usr
drwxr-xr-x 13 root root 4096 May 16 04:21 var
root@fipu:/home/bojan.alikavazovic#
```

Provjerio sam isto i kroz konzolu virtualke.

more skripta.sh

./skripta.sh

```
Ubuntu FIPU [Running] - Oracle VirtualBox
File Machine View Input Devices Help
udp      0      0 _localdnsstub:domain  0.0.0.0:*
root@fipu:/etc/netplan# ss -tul
Netid      State      Recv-Q      Send-Q
udp        UNCONN     0            0
udp        UNCONN     0            0
tcp        LISTEN     0            4096
tcp        LISTEN     0            4096
tcp        LISTEN     0            4096
root@fipu:/etc/netplan# ss -tuln
Netid      State      Recv-Q      Send-Q
udp        UNCONN     0            0
udp        UNCONN     0            0
tcp        LISTEN     0            4096
tcp        LISTEN     0            4096
tcp        LISTEN     0            4096
root@fipu:/etc/netplan# cd /home/bojan.alikavazovic/
root@fipu:/home/bojan.alikavazovic# more skripta.sh
#!/bin/sh

ls -la /
root@fipu:/home/bojan.alikavazovic# ./skripta.sh
total 88
drwxr-xr-x 23 root root 4096 May 16 04:16 .
drwxr-xr-x 23 root root 4096 May 16 04:16 ..
lrwxrwxrwx 1 root root    7 Apr 22 2024 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged
drwxr-xr-x 3 root root 4096 May 18 14:57 boot
dr-xr-xr-x 2 root root 4096 May 16 04:16 cdrom
drwxr-xr-x 19 root root 4040 May 18 14:33 dev
drwxr-xr-x 108 root root 4096 May 18 14:58 etc
drwxr-xr-x 3 root root 4096 May 16 04:21 home
lrwxrwxrwx 1 root root    7 Apr 22 2024 lib -> usr/lib
lrwxrwxrwx 1 root root    9 Apr 22 2024 lib64 -> usr/lib64
drwxr-xr-x 2 root root 4096 Feb 26 2024 lib.usr-is-merged
drwx----- 2 root root 16384 May 16 04:17 lost+found
drwxr-xr-x 2 root root 4096 Feb 16 20:51 media
drwxr-xr-x 2 root root 4096 Feb 16 20:51 mnt
drwxr-xr-x 2 root root 4096 Feb 16 20:51 opt
dr-xr-xr-x 184 root root    0 May 18 14:33 proc
drwx----- 4 root root 4096 May 18 15:00 root
drwxr-xr-x 30 root root 920 May 18 15:07 run
lrwxrwxrwx 1 root root    8 Apr 22 2024/sbin -> usr/sbin
drwxr-xr-x 2 root root 4096 Aug 22 2024/sbin.usr-is-merged
drwxr-xr-x 2 root root 4096 May 16 04:21 snap
drwxr-xr-x 2 root root 4096 Feb 16 20:51 srv
dr-xr-xr-x 13 root root    0 May 18 15:10 sys
drwxrwxrwt 13 root root 4096 May 18 15:11 tmp
drwxr-xr-x 12 root root 4096 Feb 16 20:51 usr
drwxr-xr-x 13 root root 4096 May 16 04:21 var
root@fipu:/home/bojan.alikavazovic#
```