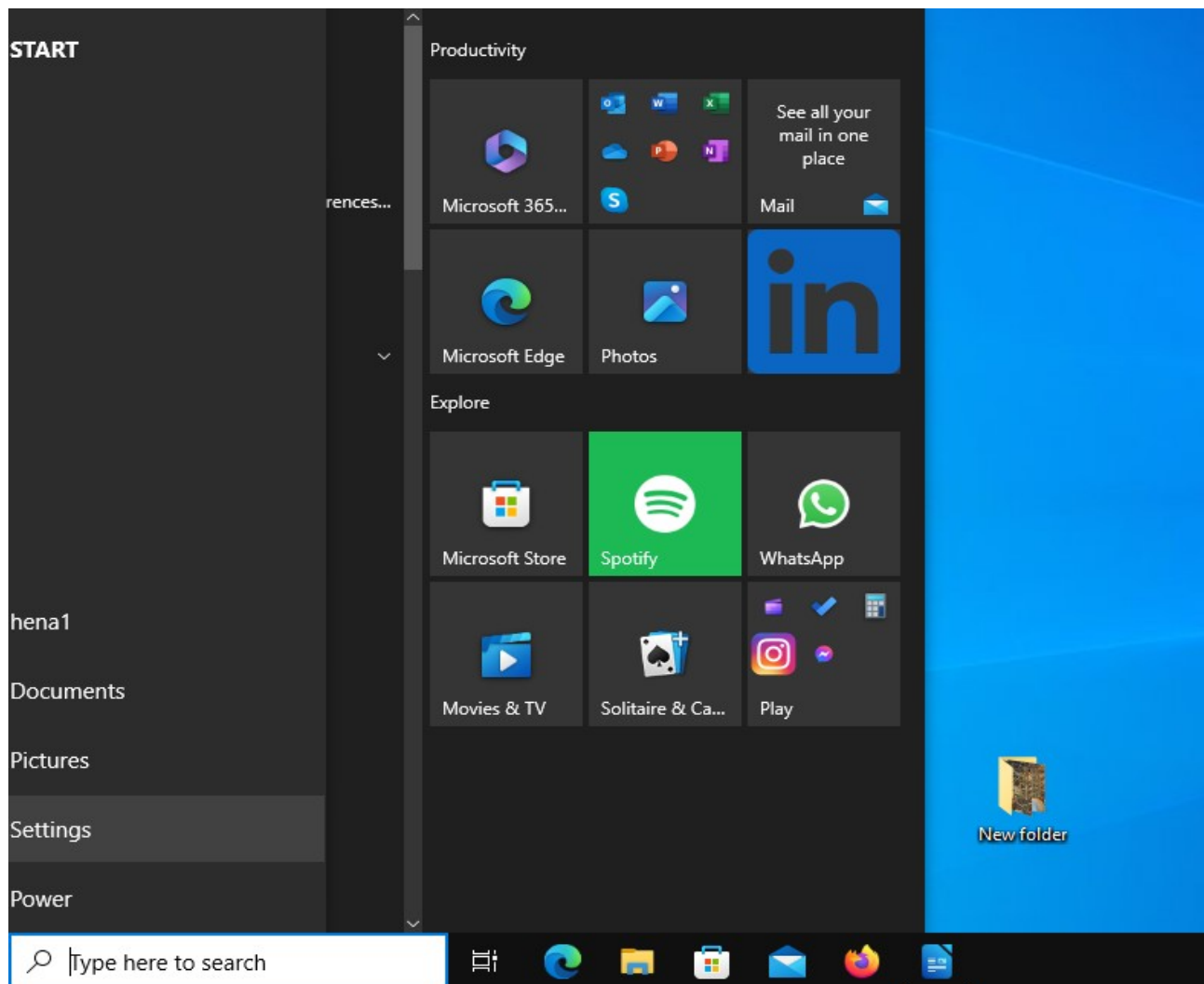
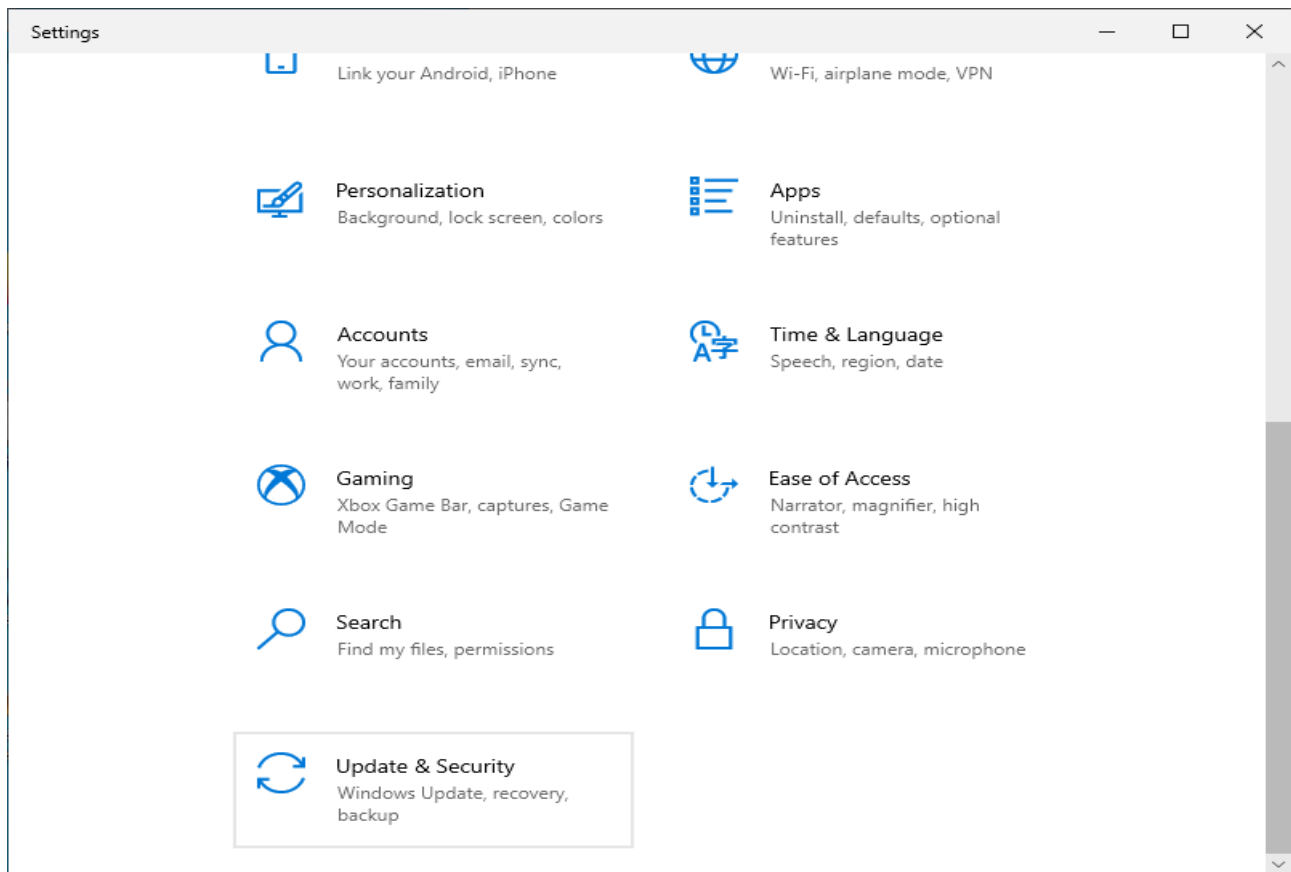
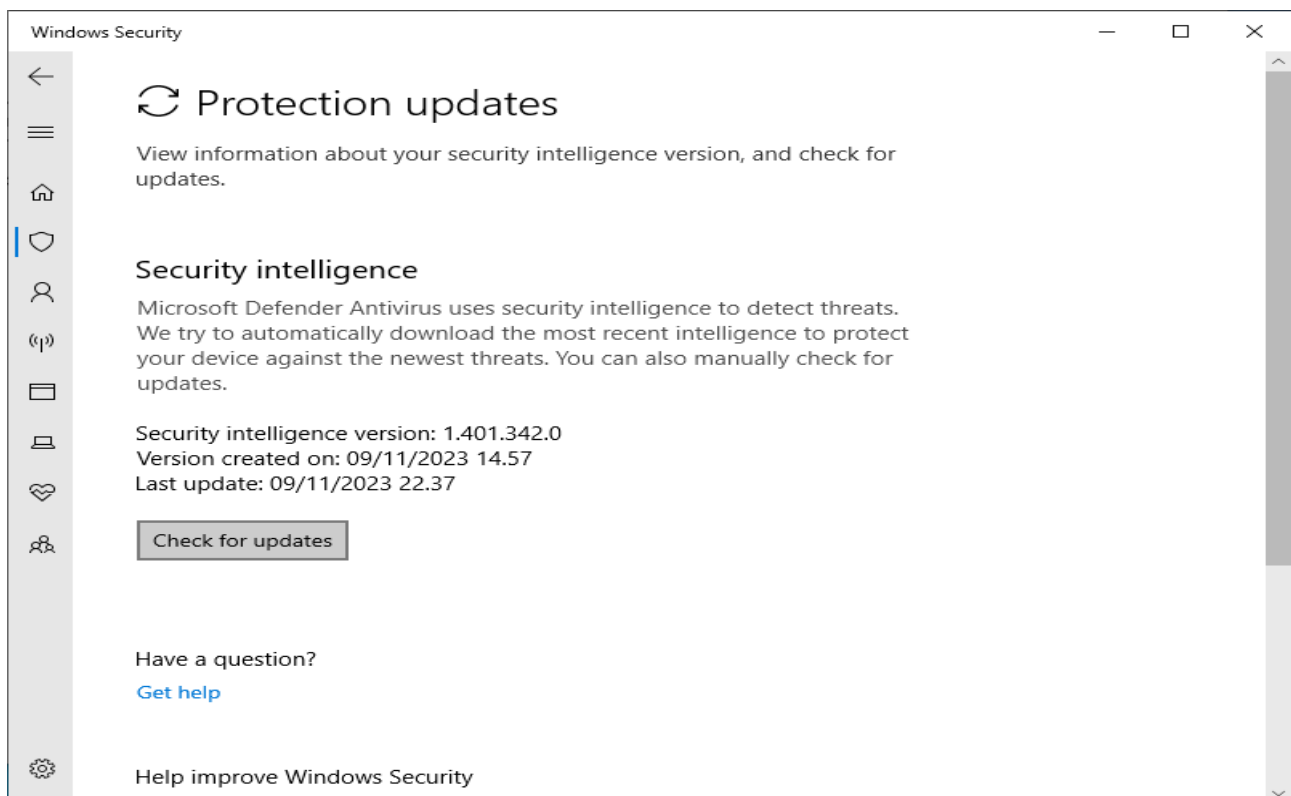
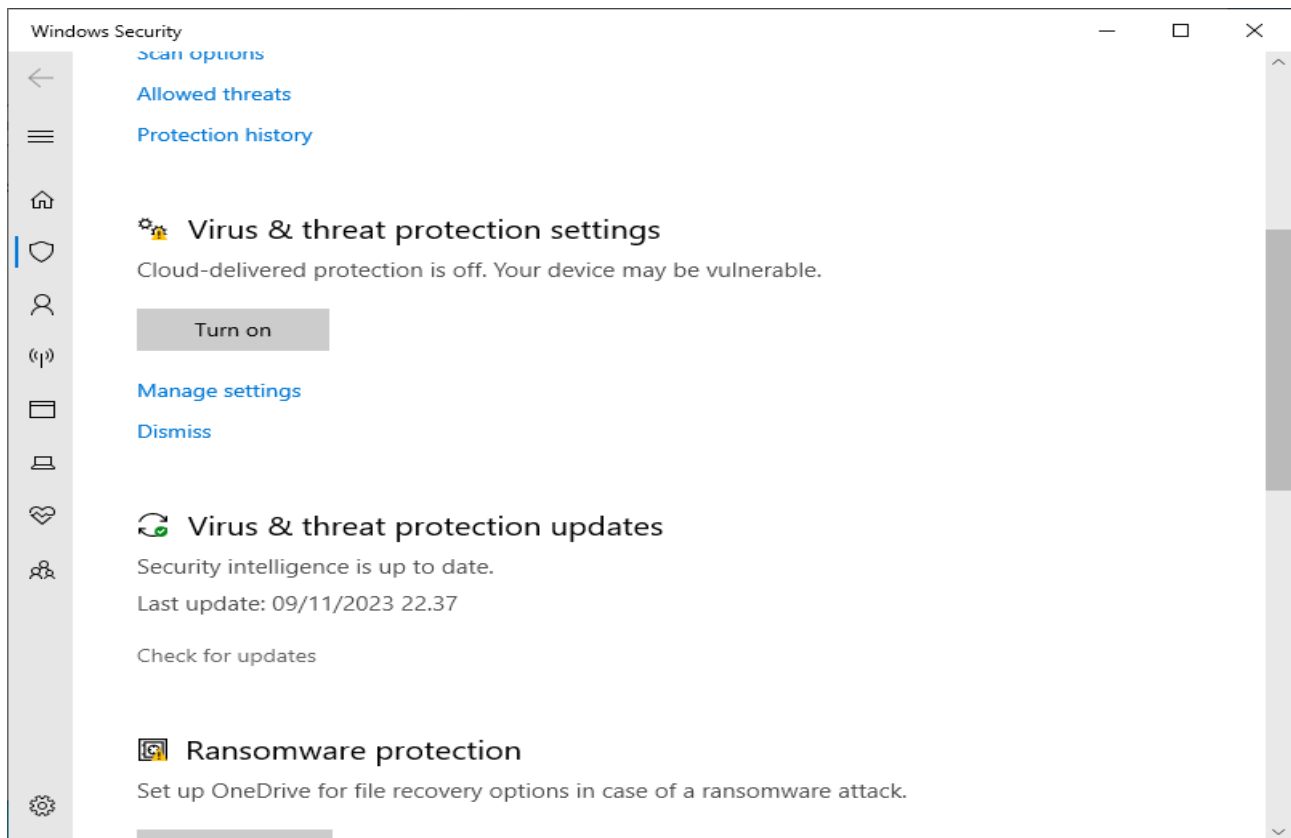


# 1. Virustorjunta ajan tasalle ennen asentelua.

MS Defenderin kanssa “settings → update&security → windows security → virus and threat protection → check for updates”.









## Protection updates

View information about your security intelligence version, and check for updates.

### Security intelligence

Microsoft Defender Antivirus uses security intelligence to detect threats. We try to automatically download the most recent intelligence to protect your device against the newest threats. You can also manually check for updates.

Security intelligence version: 1.401.342.0

Version created on: 09/11/2023 14.57

Last update: 09/11/2023 22.37

☼ Checking for updates...

Cancel

Have a question?

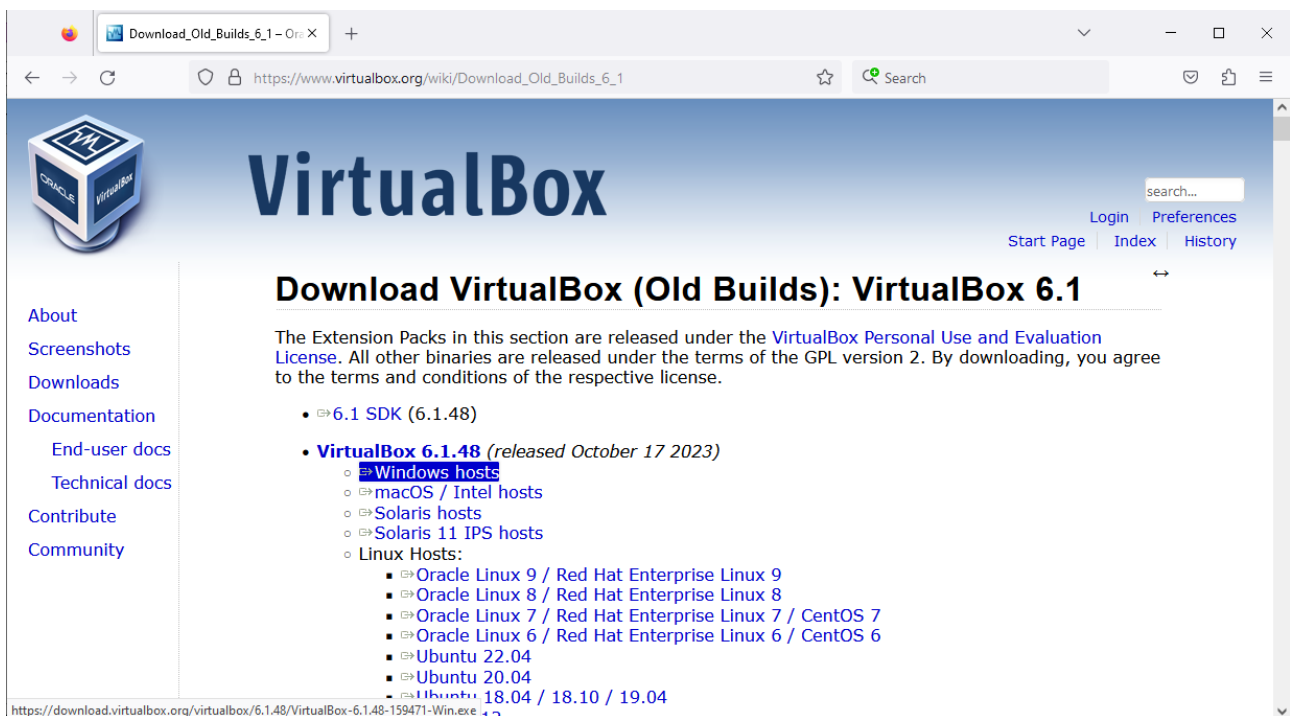
[Get help](#)

## 2. haetaan virtualbox ja extension pack.

Mennään osoitteeseen [www.virtualbox.org/wiki/Download\\_Old\\_Builds/6.1](https://www.virtualbox.org/wiki/Download_Old_Builds/6.1) .



Selaimena tässä tosiaan Firefox. Melko samaan tapaan menee Edgen ja Chromen kanssa. Tältä sivulta ladataan itse VirtualBox.



Download\_Old\_Builds\_6\_1 - Ori X

https://www.virtualbox.org/wiki/Download\_Old\_Builds\_6\_1

# VirtualBox

Start Page | Index | History

## Download VirtualBox (Old Builds): VirtualBox 6.1

The Extension Packs in this section are released under the [VirtualBox Personal Use and Evaluation License](#). All other binaries are released under the terms of the GPL version 2. By downloading, you agree to the terms and conditions of the respective license.

- [6.1 SDK \(6.1.48\)](#)
- **VirtualBox 6.1.48** (released October 17 2023)
  - [Windows hosts](#)
  - [macOS / Intel hosts](#)
  - [Solaris hosts](#)
  - [Solaris 11 IPS hosts](#)
  - Linux Hosts:
    - [Oracle Linux 9 / Red Hat Enterprise Linux 9](#)
    - [Oracle Linux 8 / Red Hat Enterprise Linux 8](#)
    - [Oracle Linux 7 / Red Hat Enterprise Linux 7 / CentOS 7](#)
    - [Oracle Linux 6 / Red Hat Enterprise Linux 6 / CentOS 6](#)
    - [Ubuntu 22.04](#)
    - [Ubuntu 20.04](#)
    - [Ubuntu 18.04 / 18.10 / 19.04](#)
    - [Debian 12](#)

(Klikkaamalla hiiren vasenta painiketta lähtee lataus käyntiin.)

Ja tarkistussummat.

Download\_Old\_Builds\_6\_1 - Ori X

https://www.virtualbox.org/wiki/Download\_Old\_Builds\_6\_1

# VirtualBox

Start Page | Index | History

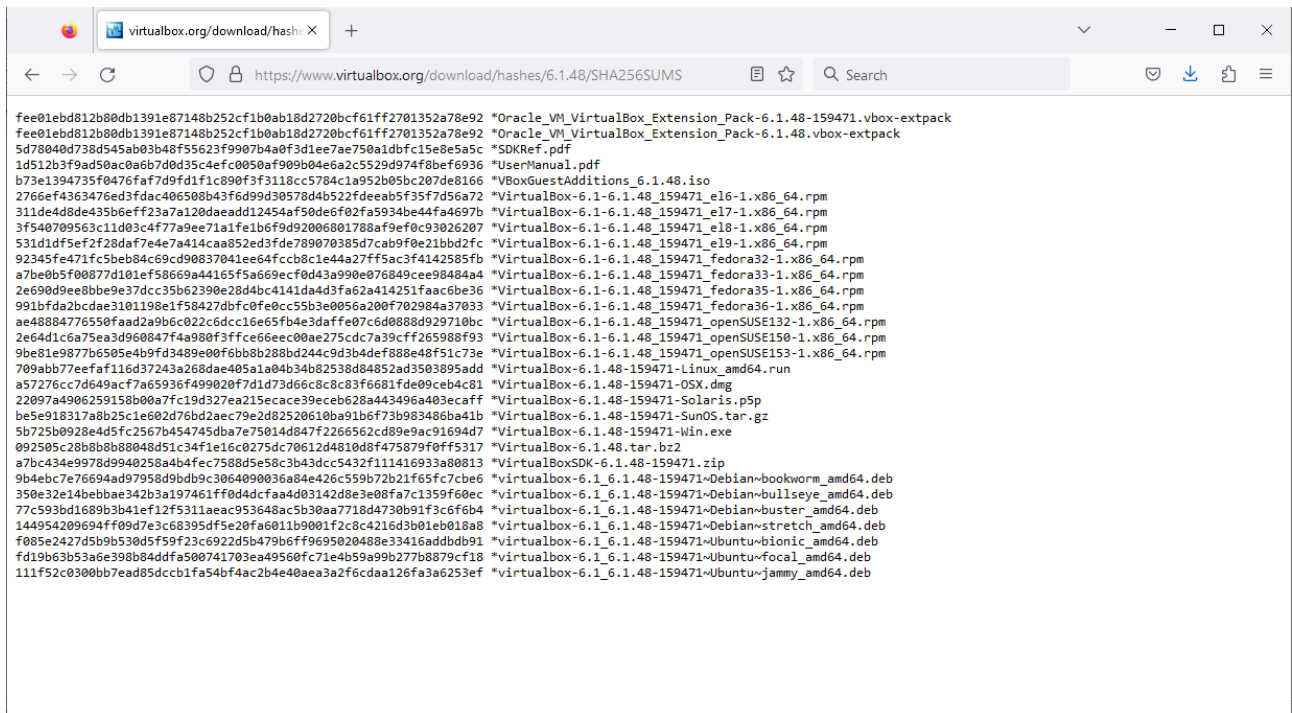
## Download VirtualBox (Old Builds): VirtualBox 6.1

The Extension Packs in this section are released under the [VirtualBox Personal Use and Evaluation License](#). All other binaries are released under the terms of the GPL version 2. By downloading, you agree to the terms and conditions of the respective license.

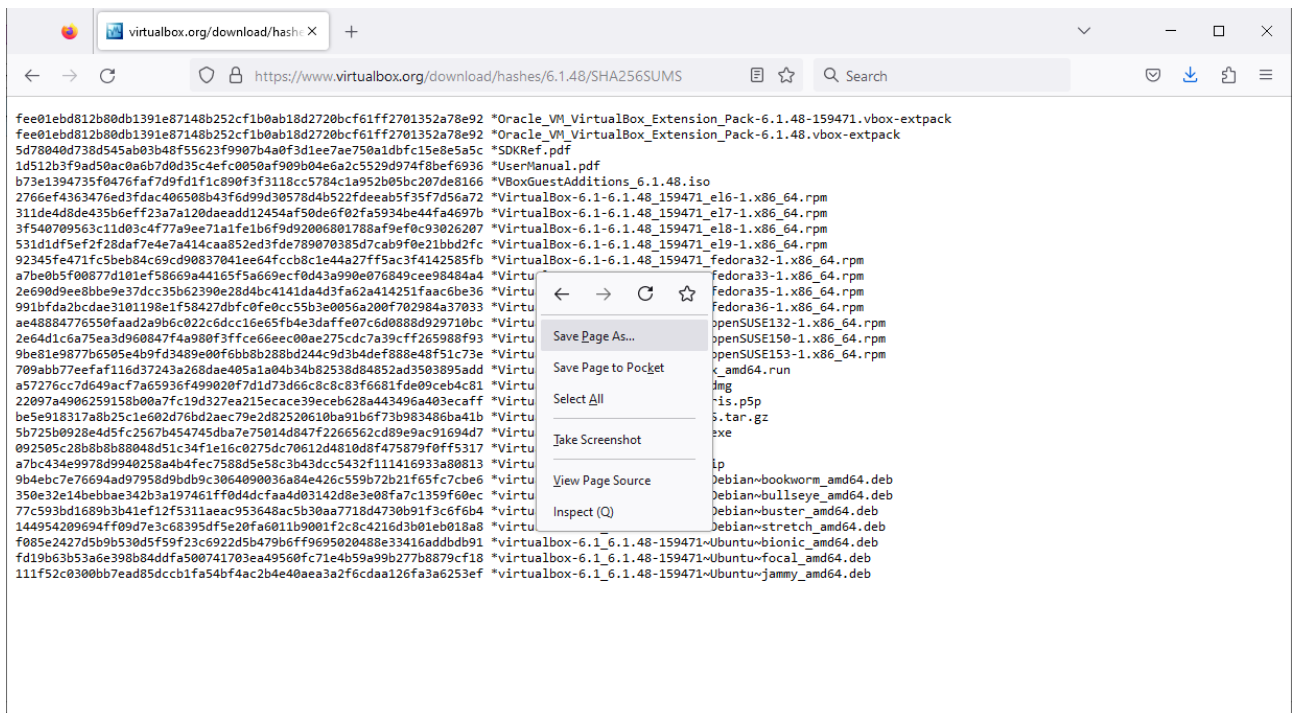
- [6.1 SDK \(6.1.48\)](#)
- **VirtualBox 6.1.48** (released October 17 2023)
  - [Windows hosts](#)
  - [macOS / Intel hosts](#)
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    - [Oracle Linux 6 / Red Hat Enterprise Linux 6 / CentOS 6](#)
    - [Ubuntu 22.04](#)
    - [Ubuntu 20.04](#)
    - [Ubuntu 18.04 / 18.10 / 19.04](#)
    - [Debian 12](#)
    - [Debian 11](#)
    - [Debian 10](#)
    - [Debian 9](#)
    - [openSUSE 15.3 / 15.4 / 15.5](#)
    - [openSUSE 15.0](#)
    - [openSUSE 13.2 / Leap 42](#)
    - [Fedora 36 / 37 / 38](#)
    - [Fedora 35](#)
    - [Fedora 33 / 34](#)
    - [Fedora 32](#)
    - [All distributions](#)
- [Extension Pack](#)
- [Sources](#)
- [MD5 checksums](#), [SHA256 checksums](#)

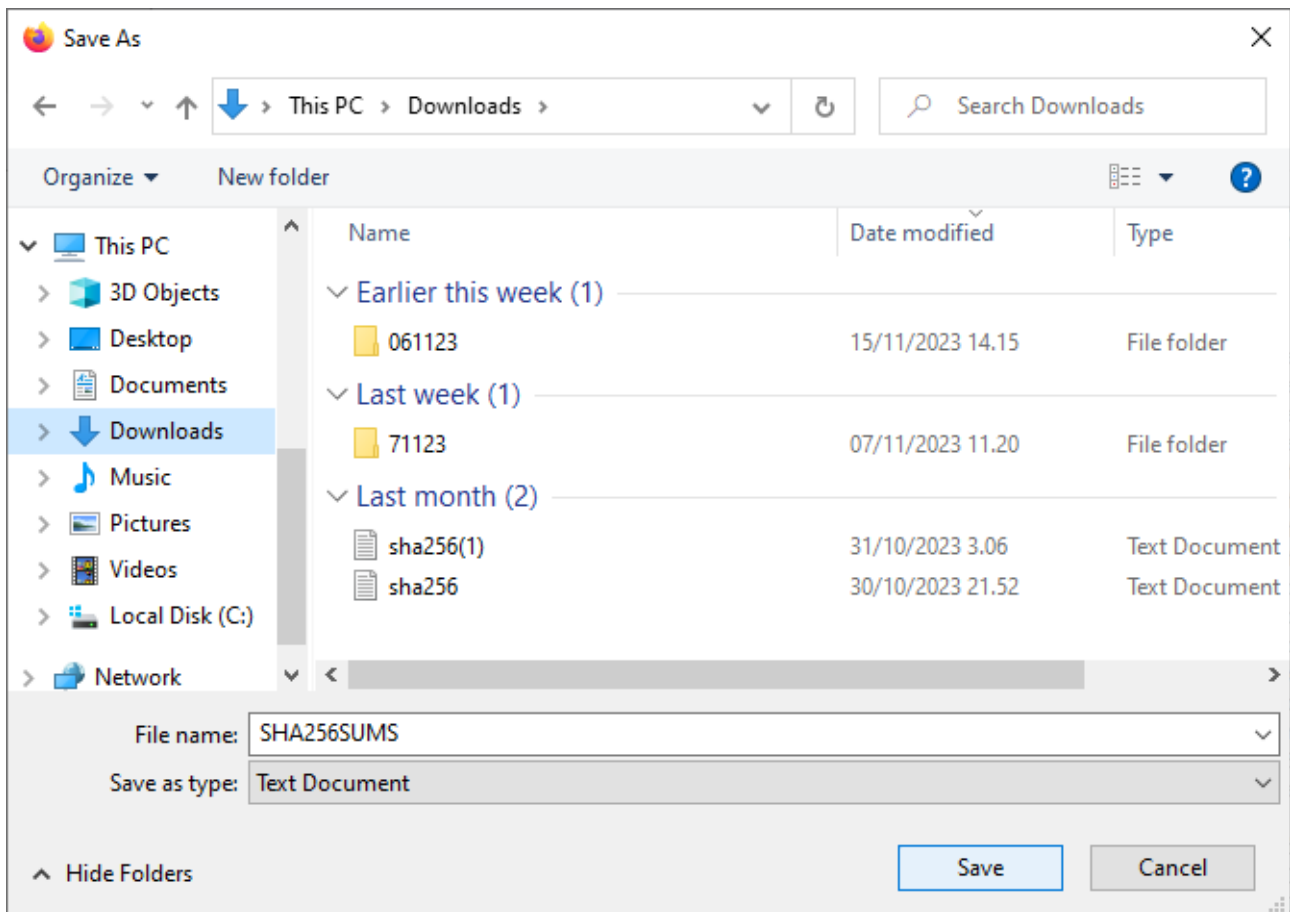
- **VirtualBox 6.1.46** (released July 18 2023)
- [Windows hosts](#)
- [macOS / Intel hosts](#)
- [Solaris hosts](#)
- [Solaris 11 IPS hosts](#)
- Linux Hosts:
  - [Oracle Linux 9 / Red Hat Enterprise Linux 9](#)
  - [Oracle Linux 8 / Red Hat Enterprise Linux 8](#)
  - [Oracle Linux 7 / Red Hat Enterprise Linux 7 / CentOS 7](#)
  - [Oracle Linux 6 / Red Hat Enterprise Linux 6 / CentOS 6](#)
  - [Ubuntu 22.04](#)
  - [Ubuntu 20.04](#)
  - [Ubuntu 18.04 / 18.10 / 19.04](#)
  - [Debian 12](#)
  - [Debian 11](#)
  - [Debian 10](#)
  - [Debian 9](#)
  - [openSUSE 15.3 / 15.4 / 15.5](#)
  - [openSUSE 15.0](#)
  - [openSUSE 13.2 / Leap 42](#)
  - [Fedora 36 / 37 / 38](#)
  - [Fedora 35](#)
  - [Fedora 33 / 34](#)
  - [Fedora 32](#)
  - [All distributions](#)

<https://www.virtualbox.org/download/hashe/6.1.48/SHA256SUMS>



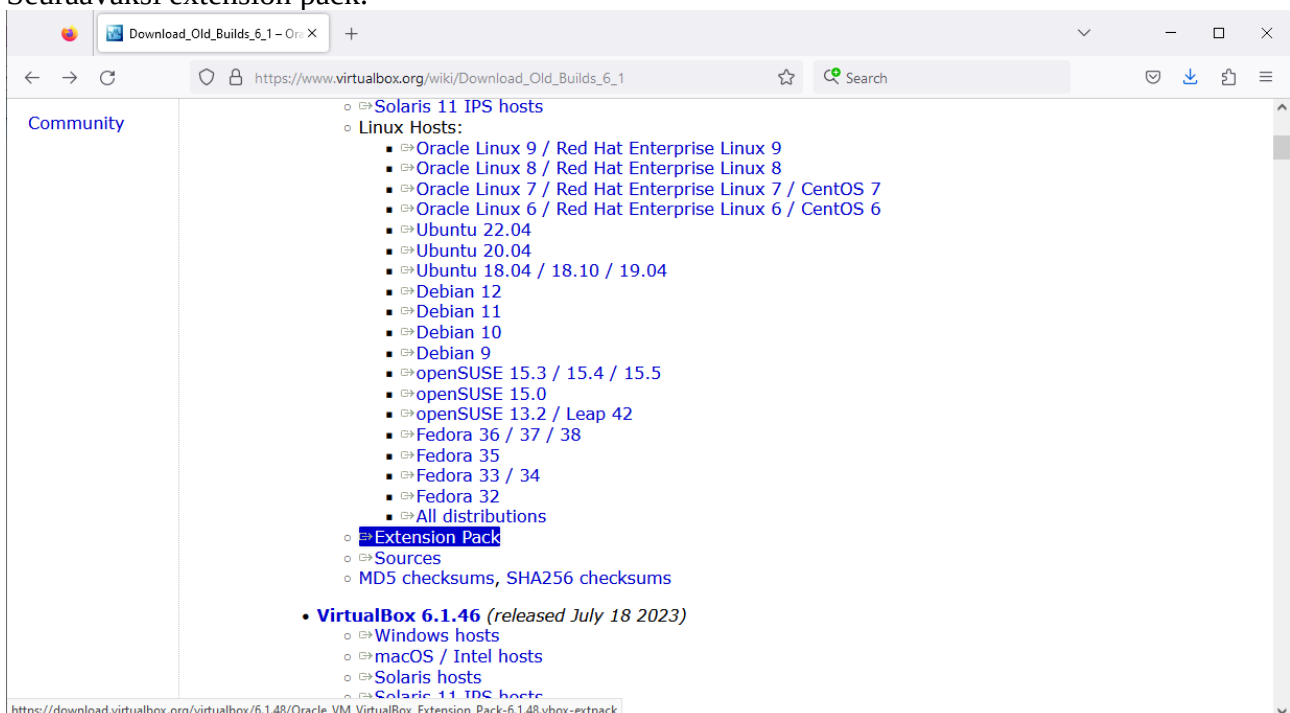
Tiedosto SHA256SUM talteen klikkaamalla oikealla ja avautuneesta valikosta “save page as”.





Tallennetaan klikkaamalla “save”.

Seuraavaksi extension pack.





Download\_Old\_Builds\_6\_1 - On: X

https://www.virtualbox.org/wiki/Download\_Old\_Builds\_6\_1

Community

- Solaris 11 IPS hosts
- Linux Hosts:
  - Oracle Linux 9 / Red Hat Enterprise Linux 9
  - Oracle Linux 8 / Red Hat Enterprise Linux 8
  - Oracle Linux 7 / Red Hat Enterprise Linux 7
  - Oracle Linux 6 / Red Hat Enterprise Linux 6
  - Ubuntu 22.04
  - Ubuntu 20.04
  - Ubuntu 18.04 / 18.10 / 19.04
  - Debian 12
  - Debian 11
  - Debian 10
  - Debian 9
  - openSUSE 15.3 / 15.4 / 15.5
  - openSUSE 15.0
  - openSUSE 13.2 / Leap 42
  - Fedora 36 / 37 / 38
  - Fedora 35
  - Fedora 33 / 34
  - Fedora 32
  - All distributions
- Extension Pack
  - Sources
  - MD5 checksums, SHA256 checksums
- **VirtualBox 6.1.46** (released July 18 2023)
  - Windows hosts
  - macOS / Intel hosts
  - Solaris hosts
  - Solaris 11 IPS hosts
  - Linux Hosts:

Oracle\_VM\_VirtualBox\_Extension\_Pack-6.1.48.vbox-extpack  
Completed — 10,6 MB

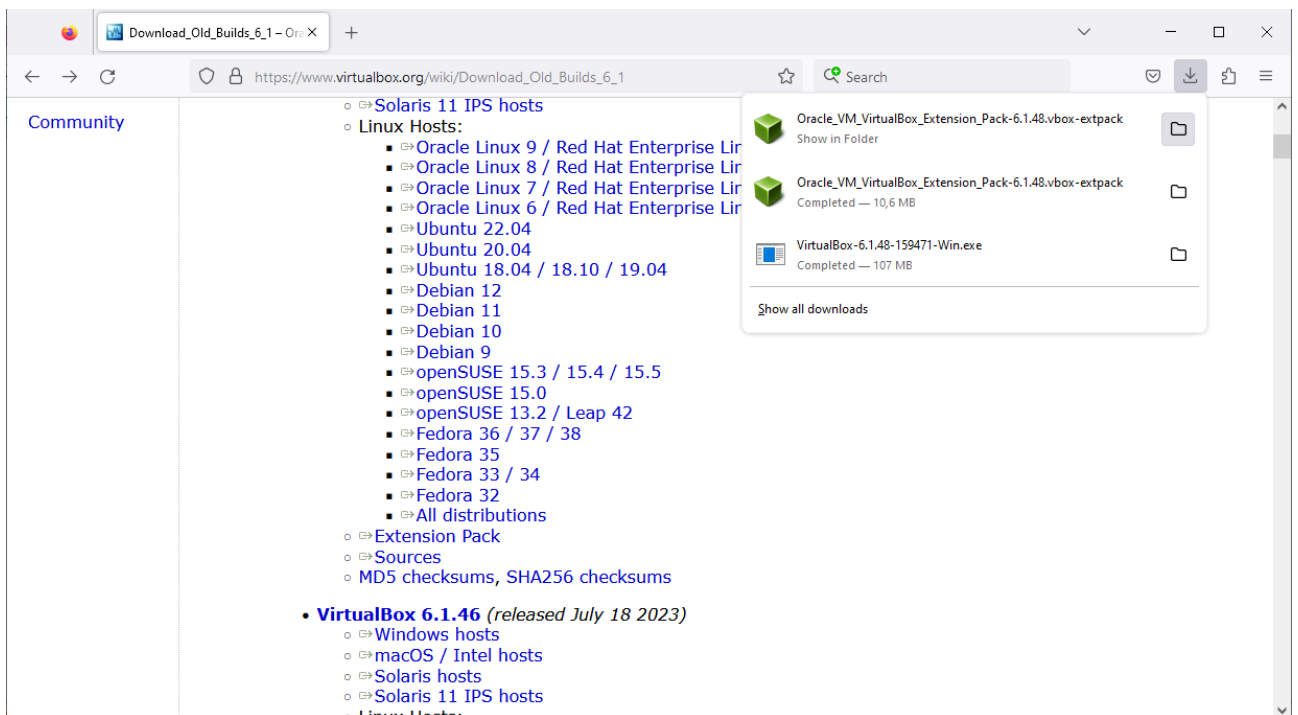
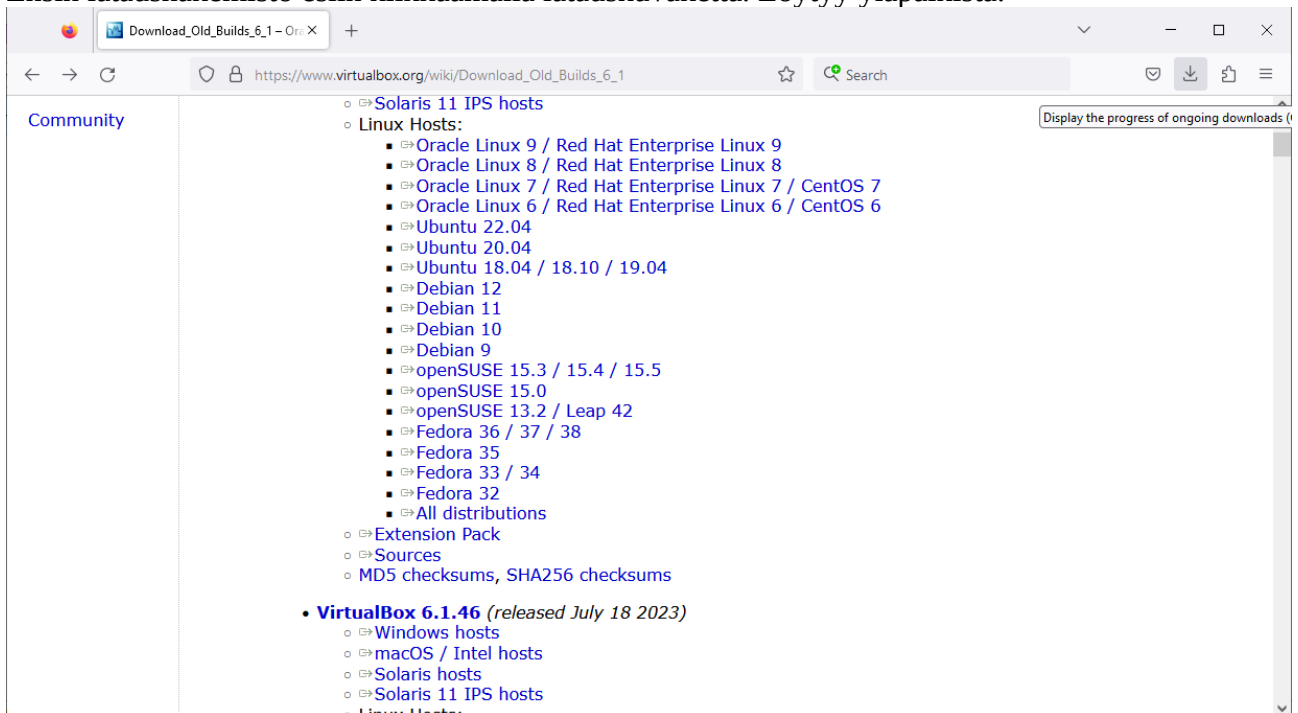
Oracle\_VM\_VirtualBox\_Extension\_Pack-6.1.48.vbox-extpack  
Completed — 0 bytes

VirtualBox-6.1.48-159471-Win.exe  
Completed — 107 MB

Show all downloads

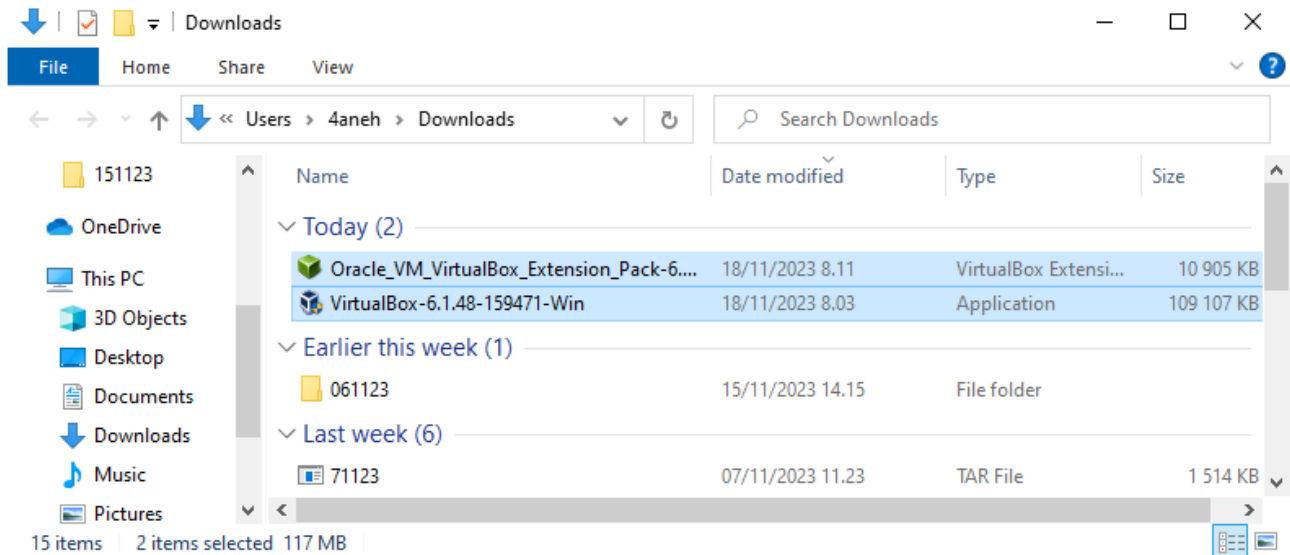
### 3. latausten tarkistus

Ensin lataushakemisto esiin klikkaamalla latauskuvaketta. Löytyy yläpalkista.

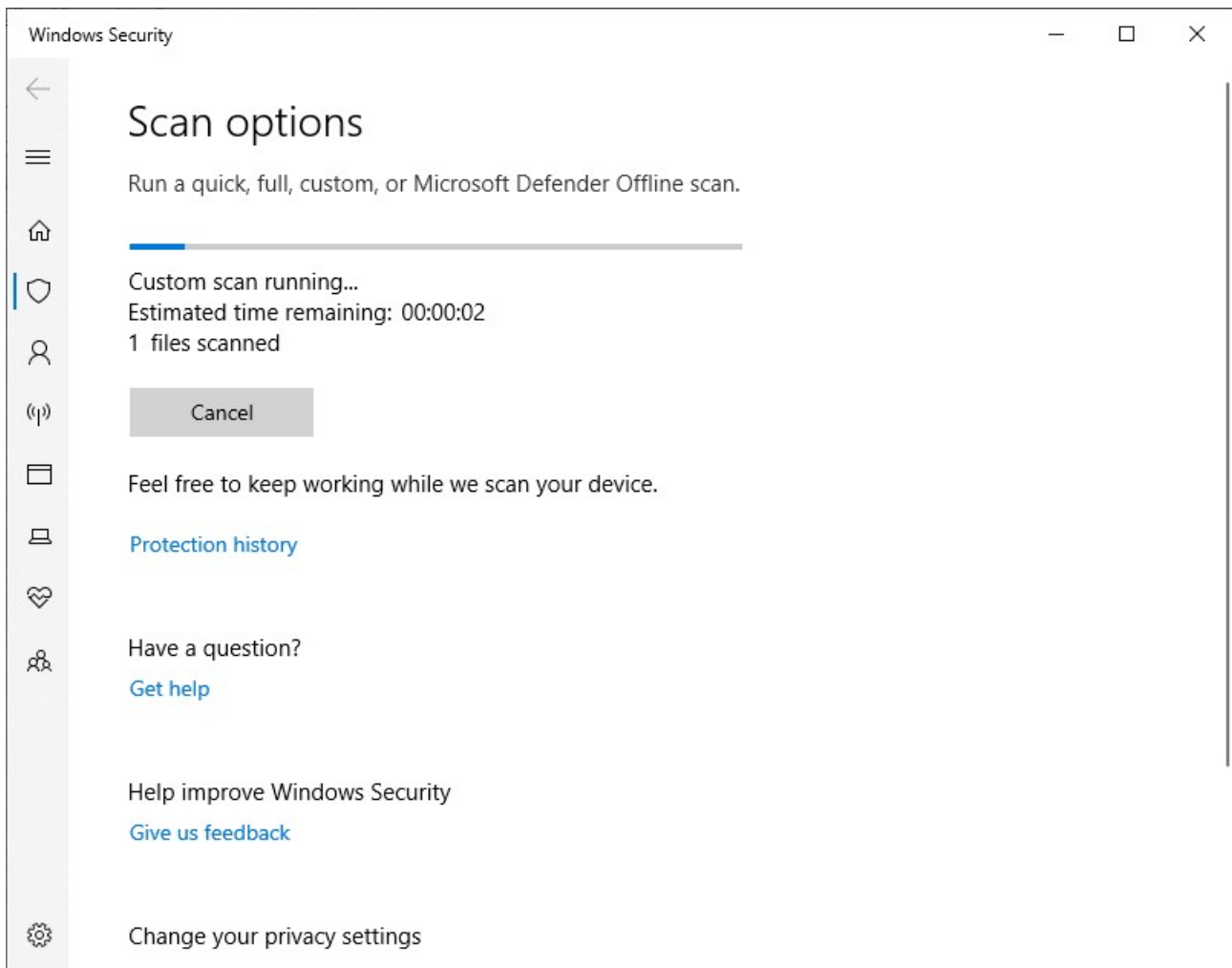


Sitten avautuneessa laatikossa ladatun tiedoston riviltä klikataan oikeanpuolimmaista kuvaketta. Kuitenkin vasemmalla painikkeella.

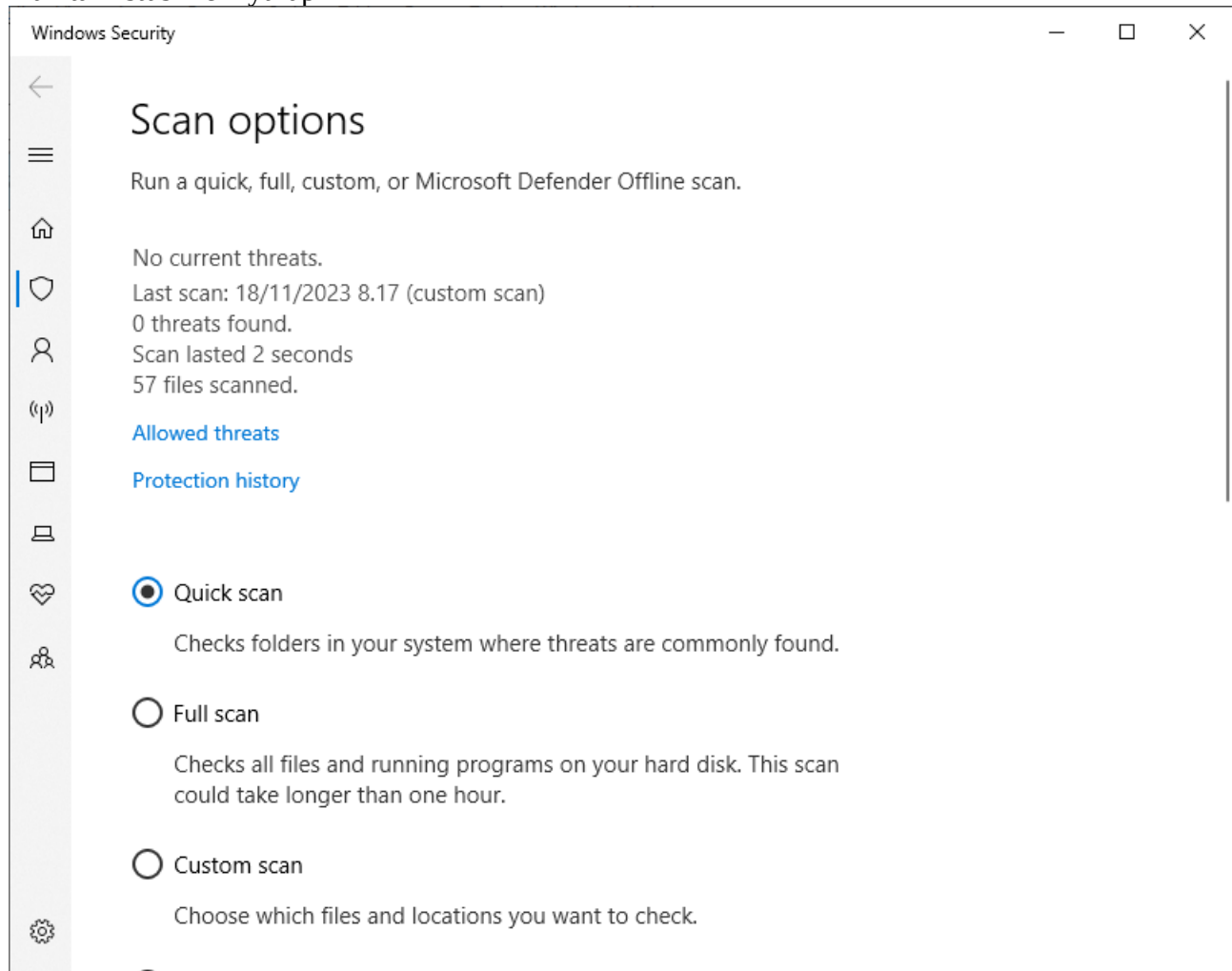
Valitaan avautuneessa hakemistossa äskettäin ladatut tiedostot, “maalaamalla” hiiren vasen painike pohjassa.



Sitten klikataan hiiren oikealla äsken “maalattuja” tiedostoja ja valikosta “scan with microsoft defender”.



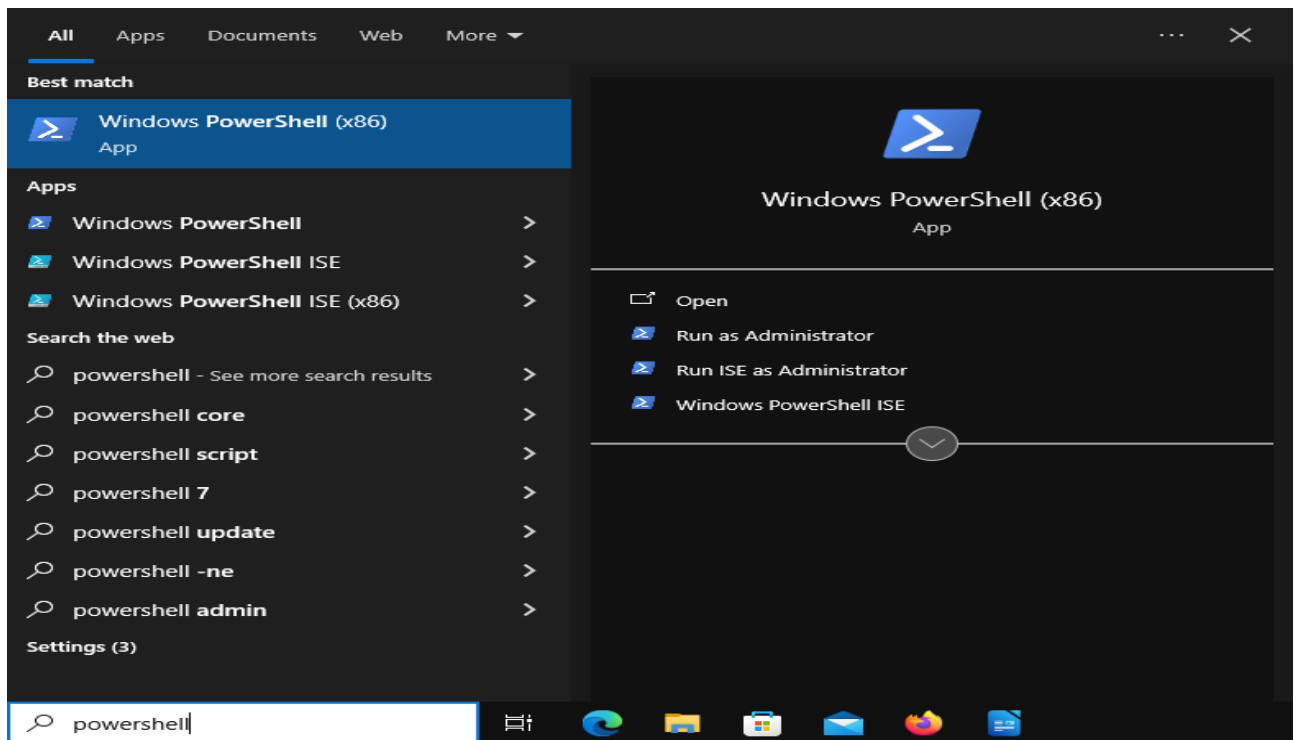
## Kun tarkistus mennyt läpi



, voidaan jatkaa seuraavaan vaiheeseen.

### 3b. tarkistussummat

Ensin powershell käyntiin. Hakutoimintoon syötetään “powershell”+tuloksen klikkaus hiiren vasemmalla painikkeella.



Sitten lataushakemistoon siirtyminen komennolla “cd Downloads”+enter.

```
Windows PowerShell (x86)
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\henal> cd Downloads
PS C:\Users\henal\Downloads>
```

Seutaavaksi annetaan komennot “Get-FileHash -Algorithm sha256 .\VirtualBox-6.1.48-159471-Win.exe”+enter ja “Get-FileHash -Algorithm sha256 .\Oracle\_VM\_VirtualBox\_Extension\_Pack-6.1.48.vbox-extpack”+enter.

```
Select Windows PowerShell
PS C:\Users\4aneh> cd .\Downloads\
PS C:\Users\4aneh\Downloads> Get-FileHash -Algorithm sha256 .\VirtualBox-6.1.48-159471-Win.exe

Algorithm      Hash                                          Path
-----
SHA256         5B725B0928E4D5FC2567B454745DBA7E75014D847F2266562CD89E9AC91694D7  C:\Users\4aneh\Downloads\Virt...

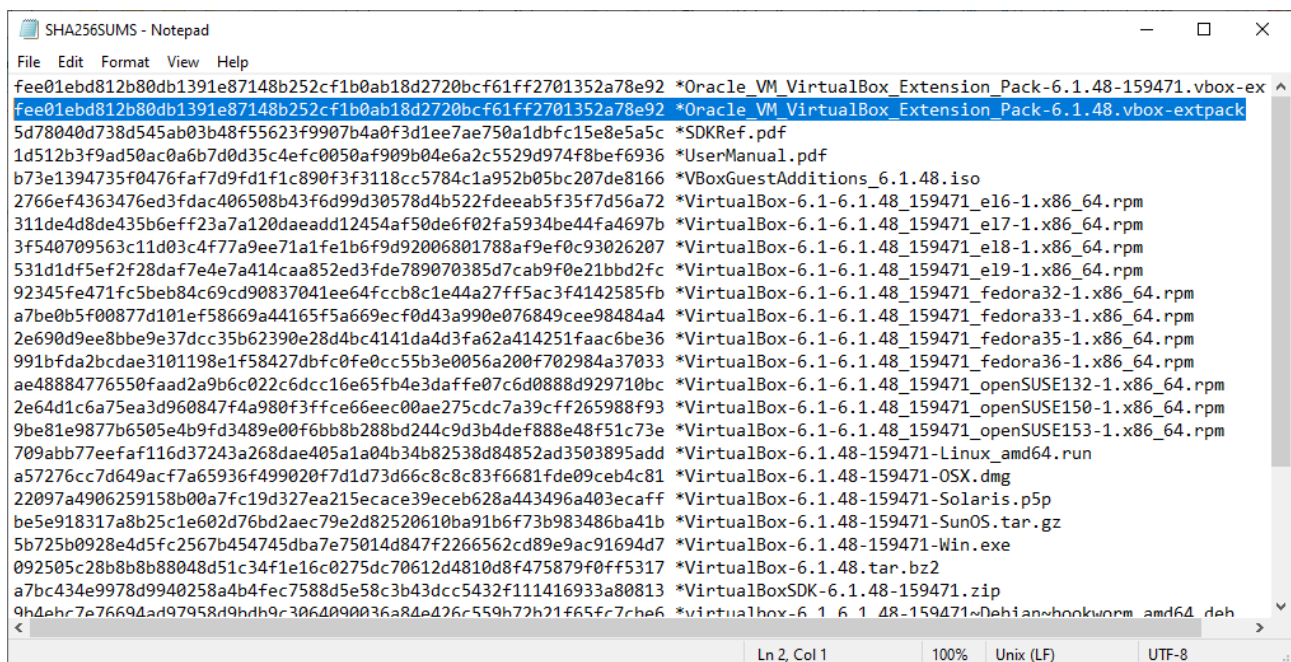
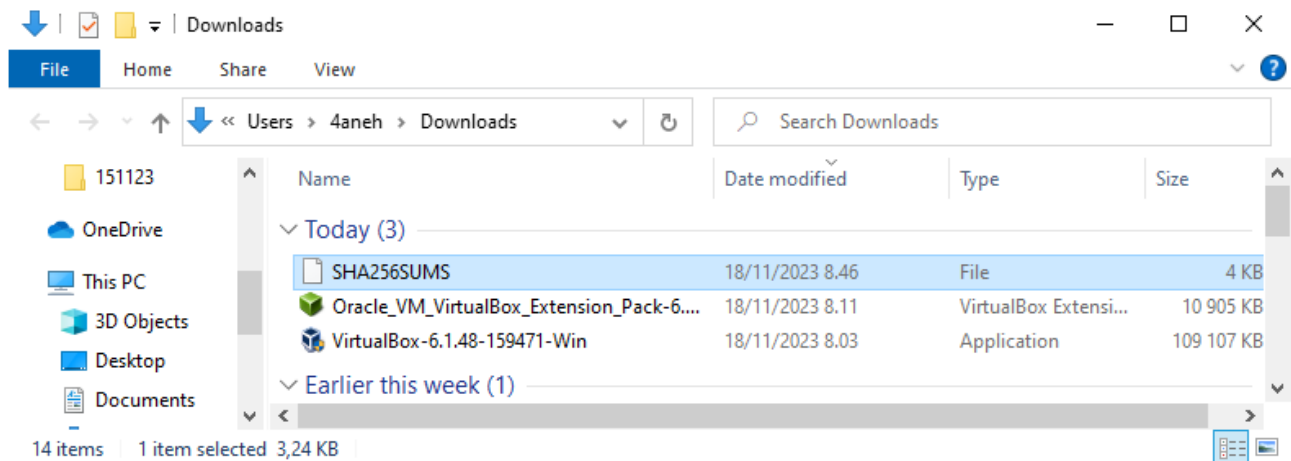
PS C:\Users\4aneh\Downloads> Get-FileHash -Algorithm sha256 .\Oracle_VM_VirtualBox_Extension_Pack-6.1.48.vbox-extpack

Algorithm      Hash                                          Path
-----
SHA256         FEE01EBD812B80DB1391E87148B252CF1B0AB18D2720BCF61FF2701352A78E92  C:\Users\4aneh\Downloads\Orac...

PS C:\Users\4aneh\Downloads>
```

Sitten verrataan näitä “Hash”-arvoja aiemmin tallennetus tiedoston SHA256SUMS vastaaviin.

Selaimen lataushakemistosta esiin se ladattu SHA256SUM. Sitten kyseisen tiedoston kohdalla esiin kontekstivalikko hiiren oikealla painikkeella klikkaamalla. Ja “open with → notepad”.



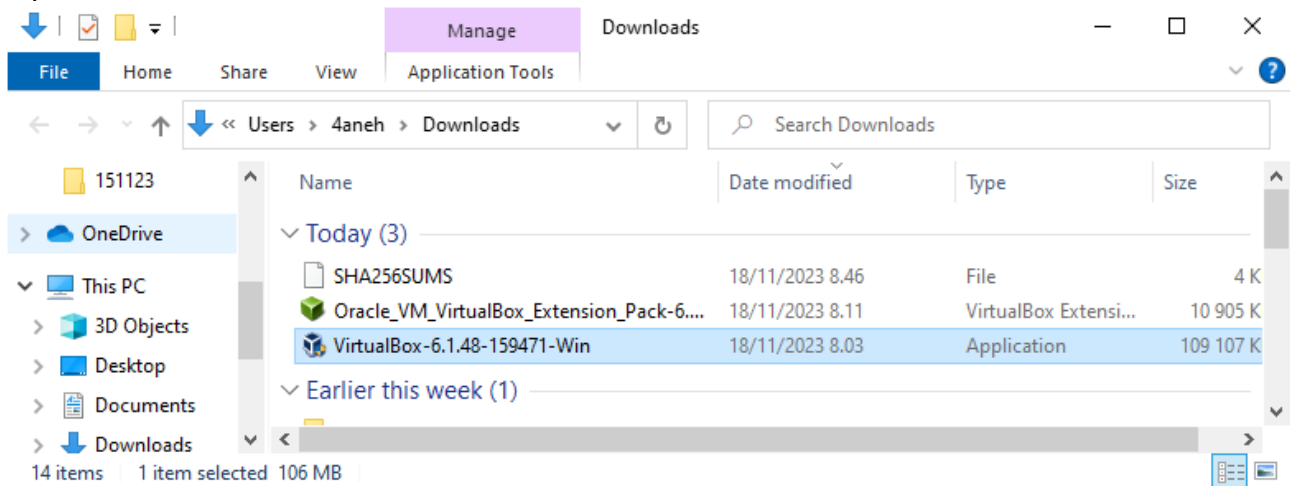
```
SHA256SUMS - Notepad
File Edit Format View Help
531d1df5ef2f28daf7e4e7a414caa852ed3fde789070385d7cab9f0e21bbd2fc *VirtualBox-6.1-6.1.48_159471_el9-1.x86_64.rpm
92345fe471fc5beb84c69cd90837041ee64fccb8c1e44a27ff5ac3f4142585fb *VirtualBox-6.1-6.1.48_159471_fedora32-1.x86_64.rpm
a7be0b5f00877d101ef58669a44165f5a669ecf0d43a990e076849cee98484a4 *VirtualBox-6.1-6.1.48_159471_fedora33-1.x86_64.rpm
2e690d9ee8bbe9e37dcc35b62390e28d4bc4141da4d3fa62a414251faac6be36 *VirtualBox-6.1-6.1.48_159471_fedora35-1.x86_64.rpm
991bfda2bcdade3101198e1f58427dbfc0fe0cc55b3e0056a200f702984a37033 *VirtualBox-6.1-6.1.48_159471_fedora36-1.x86_64.rpm
ae48884776550faad2a9b6c022c6dcc16e65fb4e3dafffe07c6d0888d929710bc *VirtualBox-6.1-6.1.48_159471_openSUSE132-1.x86_64.rpm
2e64d1c6a75ea3d960847f4a980f3ffce66e00ae275cdc7a39cfff265988f93 *VirtualBox-6.1-6.1.48_159471_openSUSE150-1.x86_64.rpm
9be81e9877b6505e4b9fd3489e00f6bb8b288bd244c9d3b4def888e48f51c73e *VirtualBox-6.1-6.1.48_159471_openSUSE153-1.x86_64.rpm
709abb77eefaf116d37243a268dae405a1a04b34b82538d84852ad3503895add *VirtualBox-6.1.48-159471-Linux_amd64.run
a57276c7d649acf7a65936f499020f7d1d73d66c8c8c83f6681fde09ceb4c81 *VirtualBox-6.1.48-159471-OSX.dmg
22097a4906259158b00a7fc19d327ea215ecace39eceb628a443496a403ecaff *VirtualBox-6.1.48-159471-Solaris.p5p
be5e918317a8b25c1e602d76bd2aec79e2d82520610ba91b6f73b983486ba41b *VirtualBox-6.1.48-159471-SunOS.tar.gz
5b725b0928e4d5fc2567b454745dba7e75014d847f2266562cd89e9ac91694d7 *VirtualBox-6.1.48-159471-Win.exe
092505c28b8b8b88048d51c34f1e16c0275dc70612d4810d8f475879f0ff5317 *VirtualBox-6.1.48.tar.bz2
a7bc434e9978d9940258a4b4fec7588d5e58c3b43dcc5432f11416933a80813 *VirtualBoxSDK-6.1.48-159471.zip
9b4ebc7e76694ad97958d9bdb9c3064090036a84e426c559b72b21f65fc7cbe6 *virtualbox-6.1_6.1.48-159471~Debian~bookworm_amd64.deb
350e32e14bebbae342b3a197461ff0d4dcfaa4d03142d8e3e08fa7c1359f60ec *virtualbox-6.1_6.1.48-159471~Debian~bullseye_amd64.deb
77c593bd1689b3b41ef12f5311a0ac953648ac5b30aa7718d4730b91f3c6f6b4 *virtualbox-6.1_6.1.48-159471~Debian~buster_amd64.deb
144954209694ff09d7e3c68395df5e20fa6011b9001f2c8c4216d3b01eb018a8 *virtualbox-6.1_6.1.48-159471~Debian~stretch_amd64.deb
f085e2427d5b9b530d5f59f23c6922d5b479b6ff9695020488e33416adddbb91 *virtualbox-6.1_6.1.48-159471~Ubuntu~bionic_amd64.deb
fd19b63b53a6e398b84ddfa500741703ea49560fc71e4b59a99b277b8879cf18 *virtualbox-6.1_6.1.48-159471~Ubuntu~focal_amd64.deb
111f52c0300bb7ead85dccb1fa54b4fac2b4e40aea3a2f6cdaa126fa3a6253ef *virtualbox-6.1_6.1.48-159471~Ubuntu~jammy_amd64.deb
Ln 21, Col 1 100% Unix (LF) UTF-8
```

Molempien “maalattujen” rivien tiedostossa SHA256SUMS tulisi nyt vastata tiedosto-kohtaisia “Hash”-lukemia powershellin ikkunassa. (Kyseessä siis heksadesimaalit tiedoston nimen vasemmalla puolella. )Tällöin tiedostojen lataus on onnistunut. Muussa tapauksissa tiedostot on ladattava uudestaan.

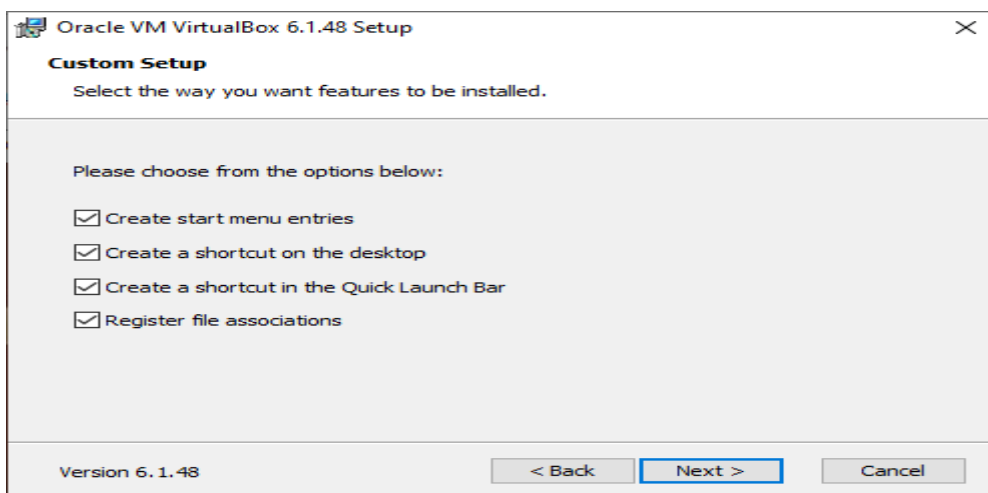


## 4. VirtualBox:in asennus

Lataushakemisto esiin ja vasen tuplaklikkaus asennustiedostosta. Se “VirtualBox”-alkuinen siis tuplaklikataan. Ei “Oracle”-alkuista.



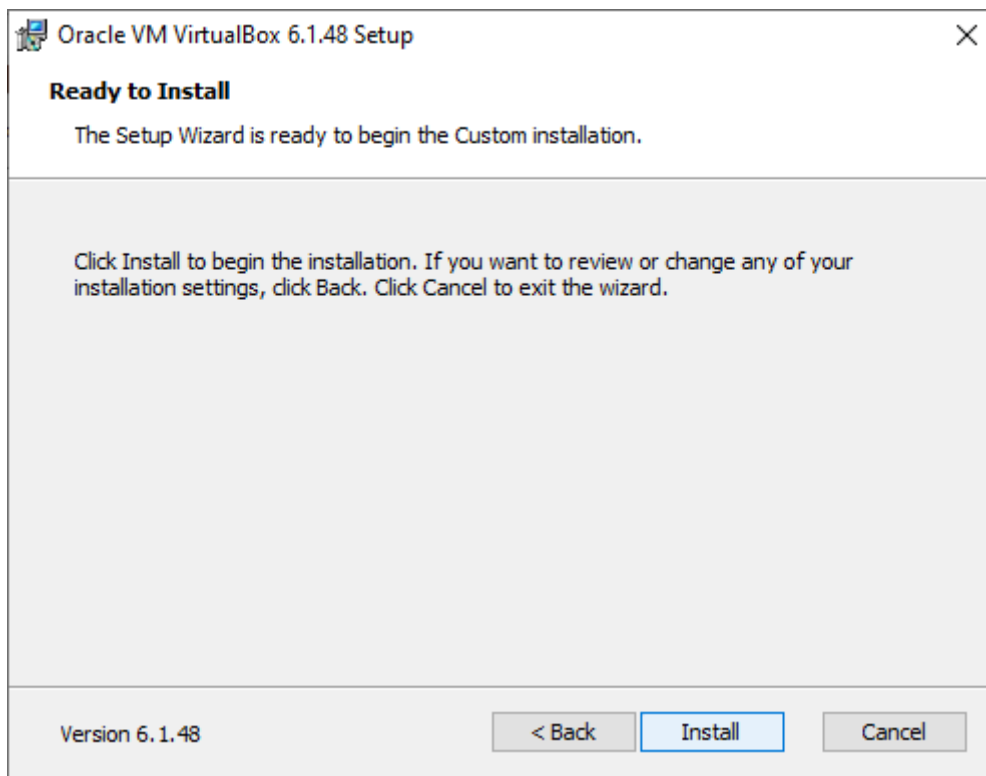
Hyväksytään muutokset järjestelmään. Sitten klikataan (vasen) pari kertaa “next” ja “yes”.

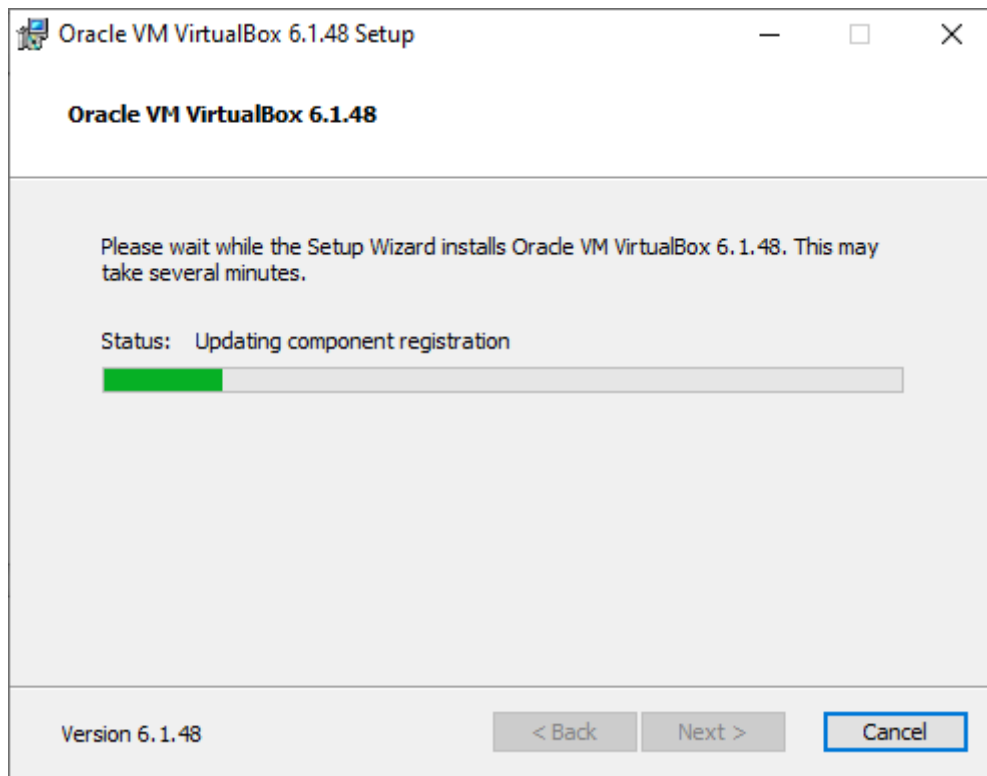


Muun muassa tällaisia välivaiheita tulee näkyviin.



“Install”.

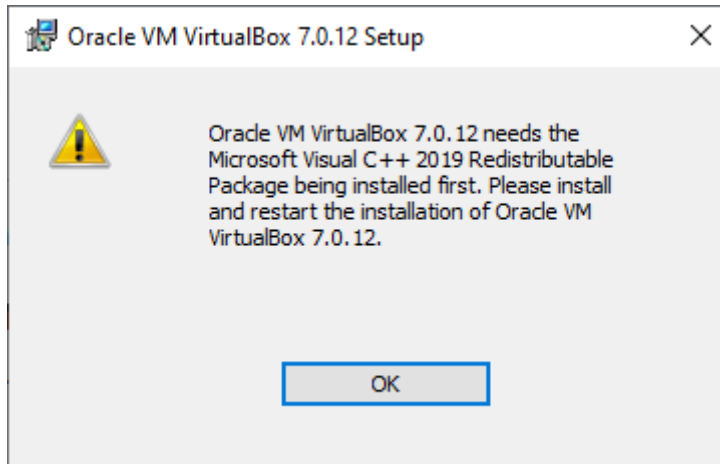




Lopuksi "Finish".



## 4.b Visual C++ 2019 Redistributable Package



Tämän osuessa kohdalle pitää asentaa visual c++2019 redistributable package.

A screenshot of a web browser showing the Microsoft Visual C++ Redistributable Downloads page. The browser's address bar shows the URL: https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?... The page has a left sidebar with a search filter set to "Visual Studio 2022" and a list of links including "Latest Supported Visual C++ Redistributable Downloads". The main content area has a heading "because the redistributable is updated frequently, to find the version number of the latest redistributable, download the redistributable you're interested in using one of the following links. Then, look at its properties using Windows File Explorer. In the Details pane, the File version contains the version of the redistributable." Below this is a table with three columns: Architecture, Link, and Notes. The table lists three architectures: ARM64, x86, and x64, each with a corresponding download link and a note. The x64 note mentions that the package contains both ARM64 and x64 binaries. To the right of the table is a section titled "Additional resources" with links to "Documentation", "Redistributing Visual C++ Files", "Visual Studio 2019 Redistribution", and "Deploy an App By Using the Redistributable Package (C++)".

Architecture	Link	Notes
ARM64	<a href="https://aka.ms/vs/17/release/vc_redist.arm64.exe">https://aka.ms/vs/17/release/vc_redist.arm64.exe</a>	Permalink for latest supported ARM64 version
x86	<a href="https://aka.ms/vs/17/release/vc_redist.x86.exe">https://aka.ms/vs/17/release/vc_redist.x86.exe</a>	Permalink for latest supported x86 version
x64	<a href="https://aka.ms/vs/17/release/vc_redist.x64.exe">https://aka.ms/vs/17/release/vc_redist.x64.exe</a>	Permalink for latest supported x64 version. The X64 Redistributable package contains both ARM64 and x64 binaries. This package makes it easy to install required Visual C++ ARM64 binaries when the X64 Redistributable is installed on an ARM64 device.

Osoite mistä kyseinen paketti löytyy: [https://aka.ms/vs/17/release/vc\\_redist.x64.exe](https://aka.ms/vs/17/release/vc_redist.x64.exe) .

because the redistributable is updated frequently. To find the latest redistributable, download the redistributable you're interested in. Then, look at its properties using Windows File Explorer. In the File version tab, the File version contains the version of the redistributable.

**Architecture**

Architecture	Link	Permalink
ARM64	<a href="https://aka.ms/vs/17/release/vc_redist.arm64.exe">https://aka.ms/vs/17/release/vc_redist.arm64.exe</a>	Permalink for ARM64
X86	<a href="https://aka.ms/vs/17/release/vc_redist.x86.exe">https://aka.ms/vs/17/release/vc_redist.x86.exe</a>	Permalink for X86
X64	<a href="https://aka.ms/vs/17/release/vc_redist.x64.exe">https://aka.ms/vs/17/release/vc_redist.x64.exe</a>	Permalink for X64

Download other versions, including long term servicing release channel (LTSC) versions, from [my.visualstudio.com](https://my.visualstudio.com).

**VC\_redist.x64.exe**  
A few seconds left — 11,7 of 24,2 MB (11,8 MB/sec)

Oracle\_VM\_VirtualBox\_Extension\_Pack-7.0.12.vbox-extpack  
Completed — 17,4 MB

Oracle\_VM\_VirtualBox\_Extension\_Pack-7.0.12.vbox-extpack  
Completed — 17,4 MB

SHA256SUMS  
Completed — 2,6 KB

VirtualBox-7.0.12-159484-Win.exe  
Completed — 106 MB

**Redistributable Package (C++)**  
Learn more about: Walkthrough: Deploying a Visual C++ Application By Using the Visual C++ Redistributable...

Show all downloads

Show 5 more

Downloads

File Home Share View Application Tools

Search Downloads

23 items | 1 item selected 24,1 MB

Name	Date modified	Type	Size
<b>Today (3)</b>			
VC_redist.x64	10/11/2023 2:06	Application	24 762 KB
Oracle_VM_VirtualBox_Extension_Pack-7...	10/11/2023 1:51	VBOX-EXTPACK File	17 819 KB
VirtualBox-7.0.12-159484-Win	10/11/2023 1:47	Application	108 298 KB
<b>Last week (10)</b>			
super_grub2_disk_x86_64_efi_2.04s1	30/10/2023 5:35	Disc Image File	11 298 KB
super_grub2_disk_hybrid_2.04s1	30/10/2023 4:25	Disc Image File	15 978 KB
rufus	30/10/2023 1:54	Configuration sett...	1 KB
grub-efi-amd64-bin_2.06-3~deb11u6_a...	30/10/2023 1:14	DEB File	1 529 KB
Grub-UEFI error... file "_boot_grub_x86_64...	30/10/2023 1:06	Firefox HTML Doc...	34 KB
general relativity - Is source of space-tim...	30/10/2023 1:04	Firefox HTML Doc...	268 KB
linux - Cannot find EFI directory issue wit...	30/10/2023 1:03	Firefox HTML Doc...	328 KB
Grub-UEFI error... file "_boot_grub_x86_64...	30/10/2023 1:06	File folder	
general relativity - Is source of space-tim...	30/10/2023 1:04	File folder	
linux - Cannot find EFI directory issue wit...	30/10/2023 1:03	File folder	
<b>Last month (8)</b>			
LVM and/or RAID with refractainstaller_...	29/10/2023 22:41	Firefox HTML Doc...	22 KB
devuan-daedalus_5.0.1_amd64_desktop	29/10/2023 19:15	Disc Image File	3 921 728 KB

Skannaus ja asennus kuten virtualboxin asennuspaketinkin kanssa.

Microsoft Visual C++ 2015-2022 Redistributable (x64) - 14.36.32532

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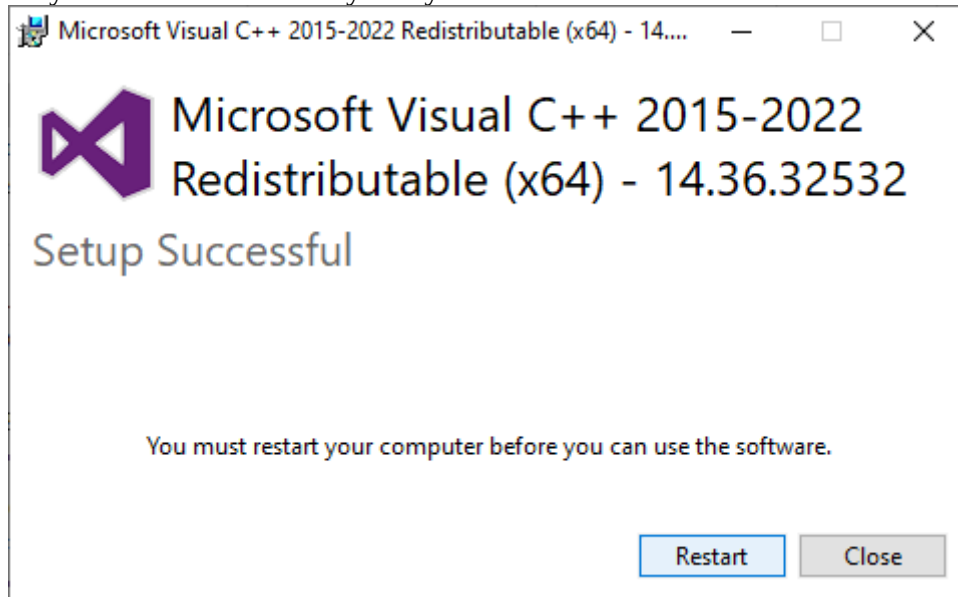
**MICROSOFT VISUAL C++ 2015 - 2022 RUNTIME**

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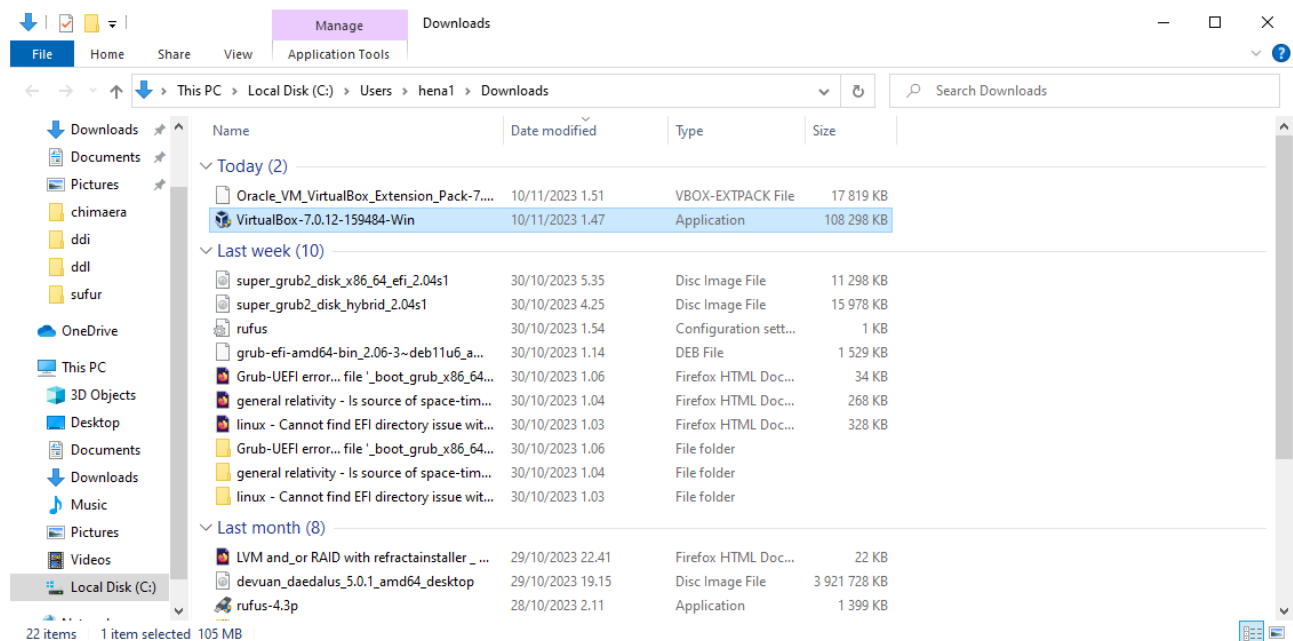
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Install Close

Ehdot hyväksytään jonka jälkeen klikataan “install”. Järjestelmään kohdistuvat muutokset hyväksyttävä myös. Vaatii uudelleenkäynnistyksen. Klikataan siis “Restart”.

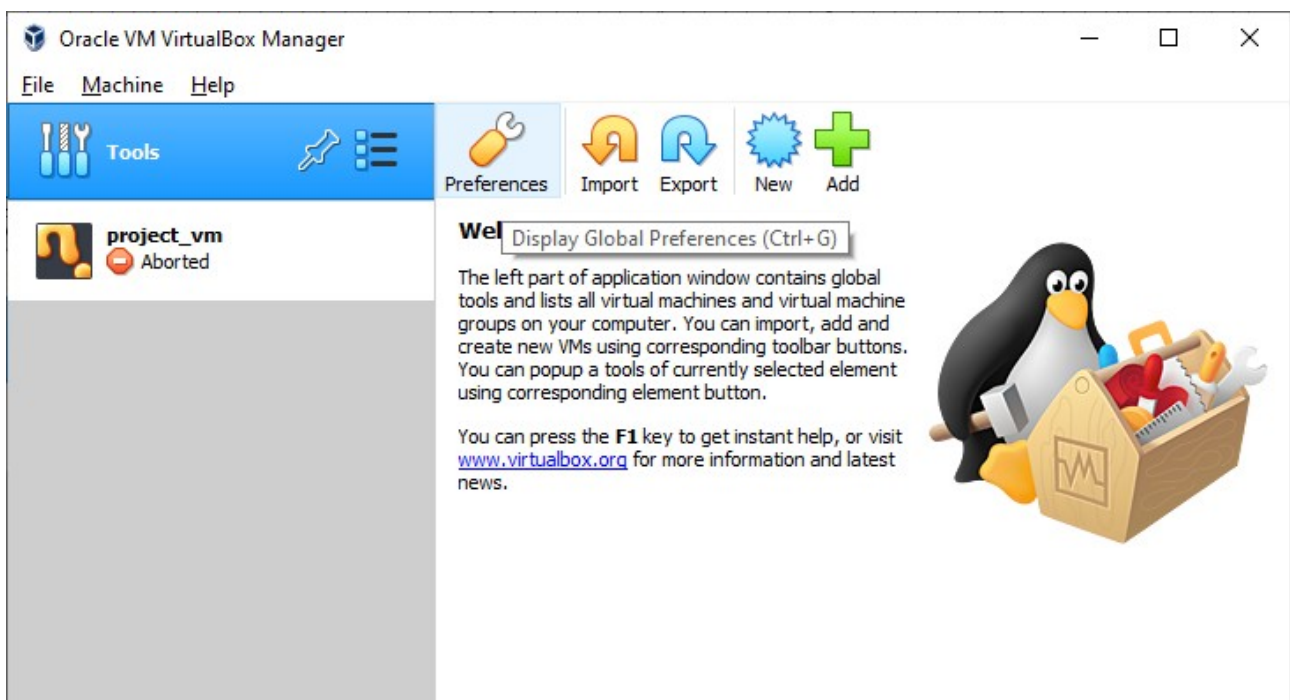
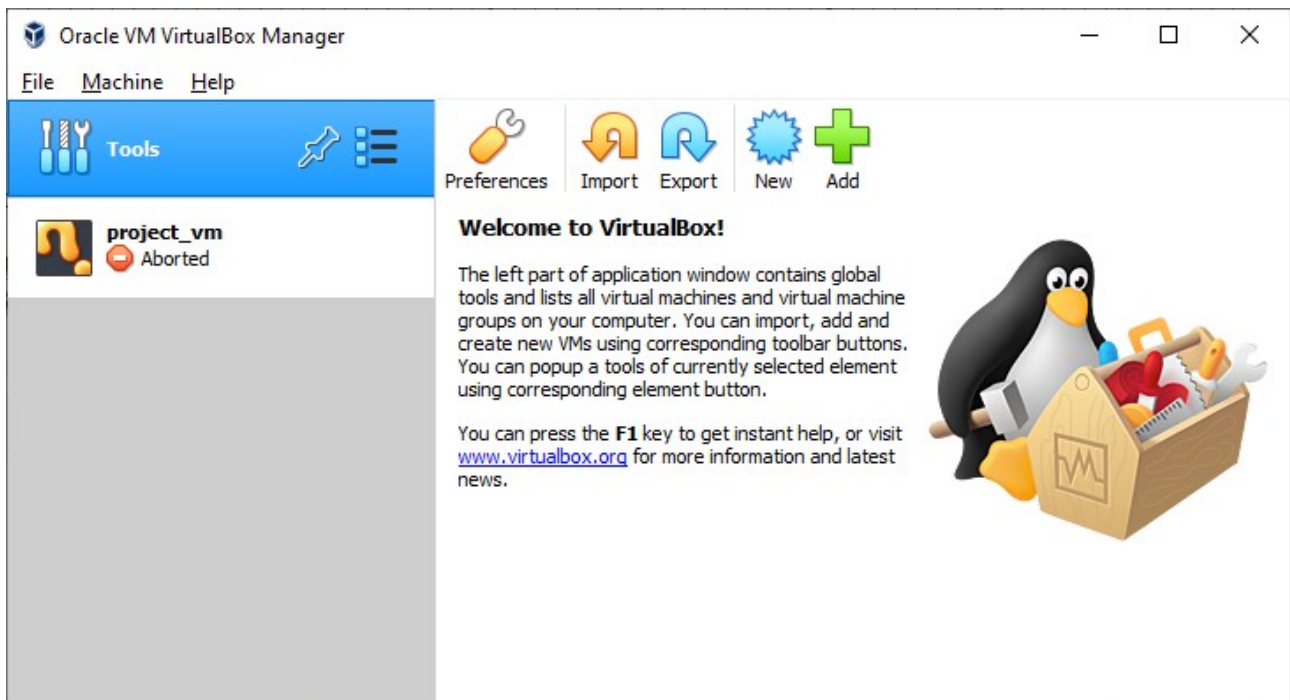


Kun paketti asentunut uudelleenkäynnistyksen jälkeen, niin voidaan ottaa uusiksi virtualboxin asennus.

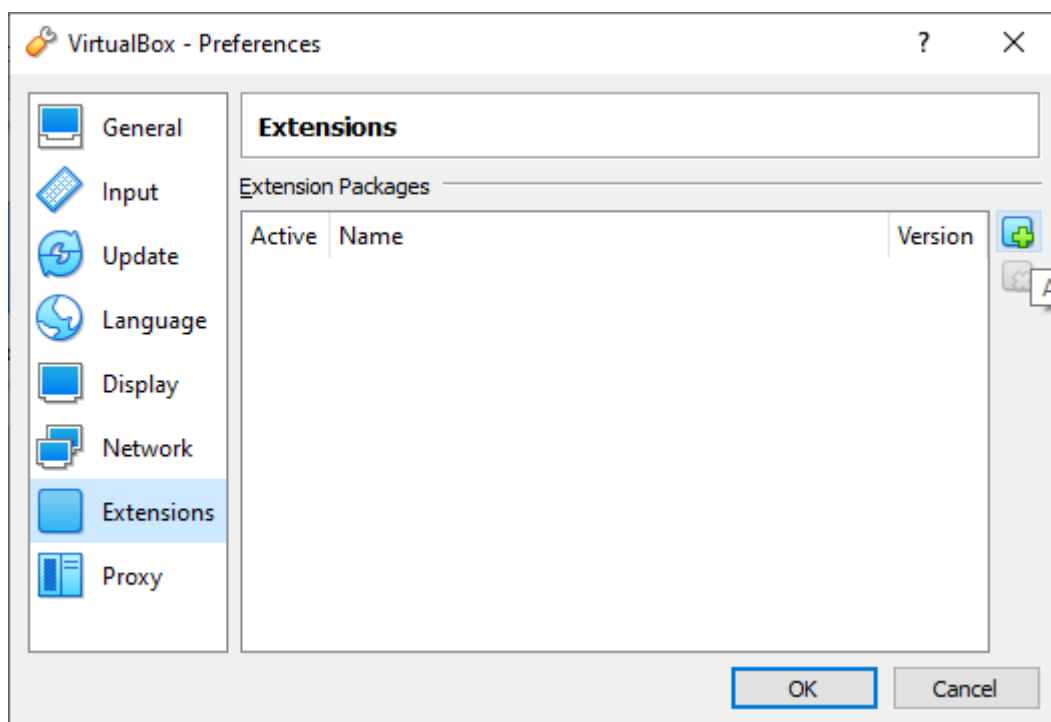
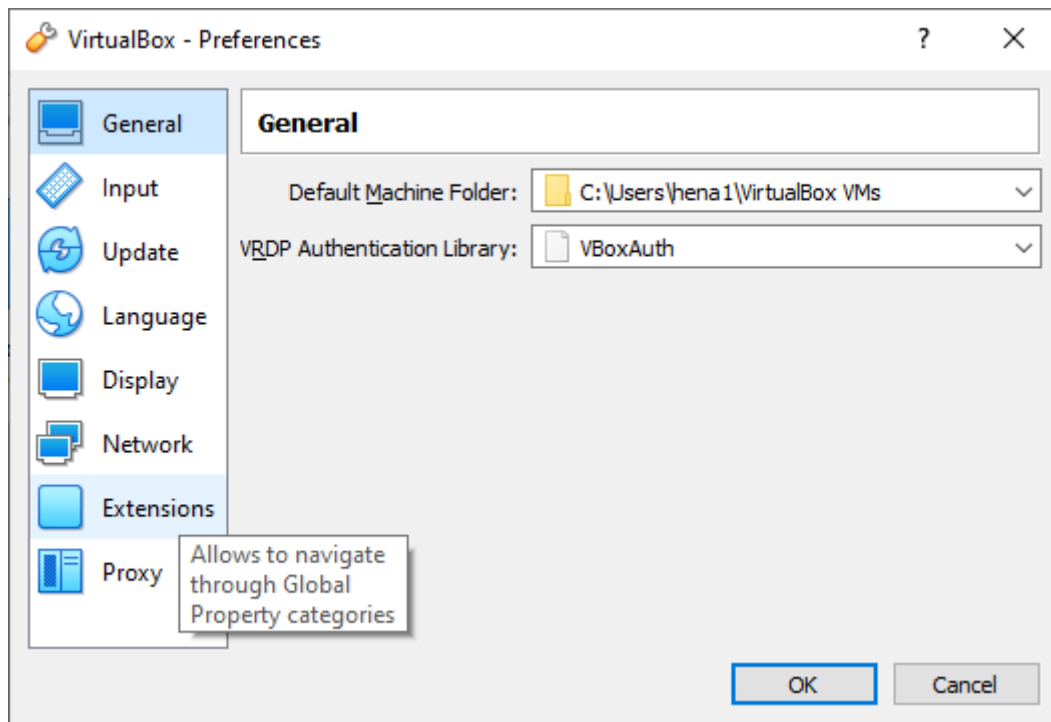


## 5. extpack asennus

Tools → Preferences → Extensions

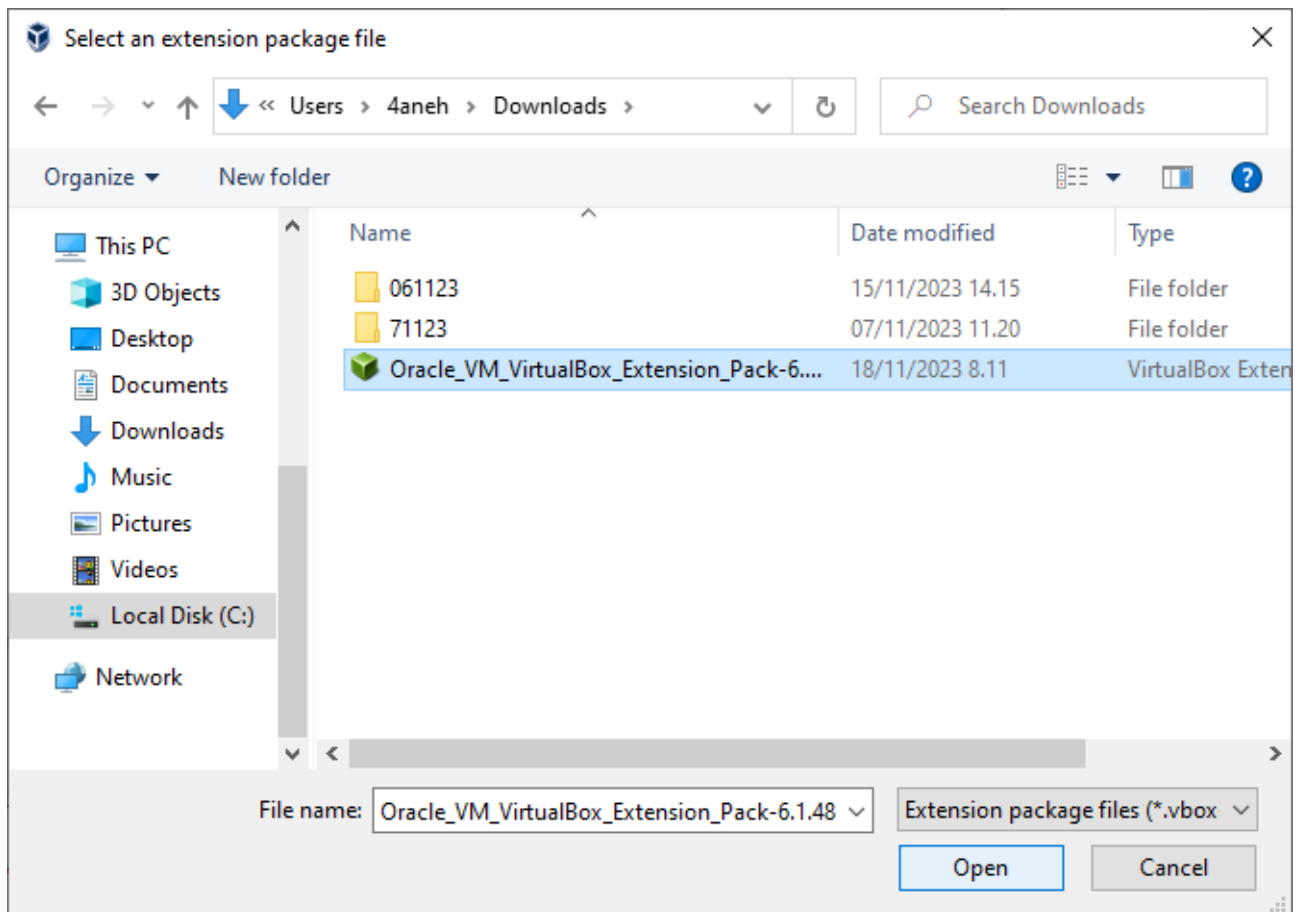




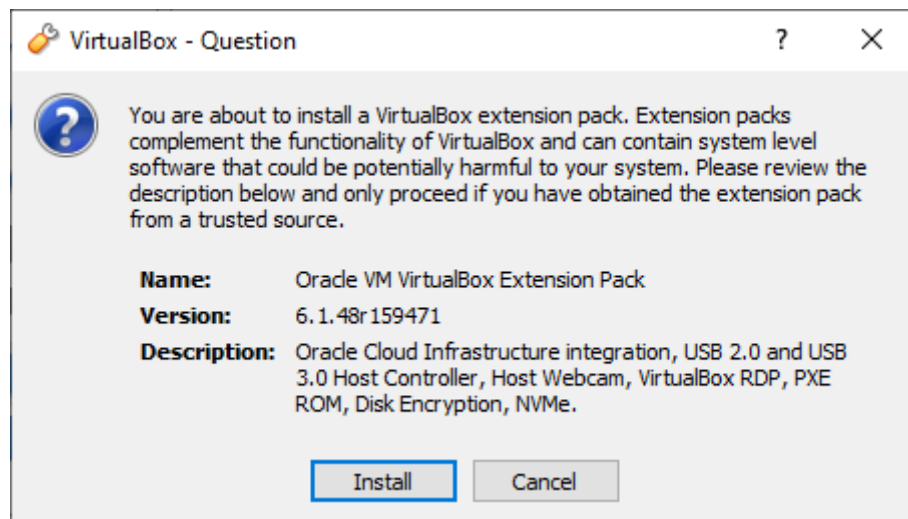


Kuvaketta “+” klikkaamalla pääsee etsimään tiedoston lisäämistä varten.



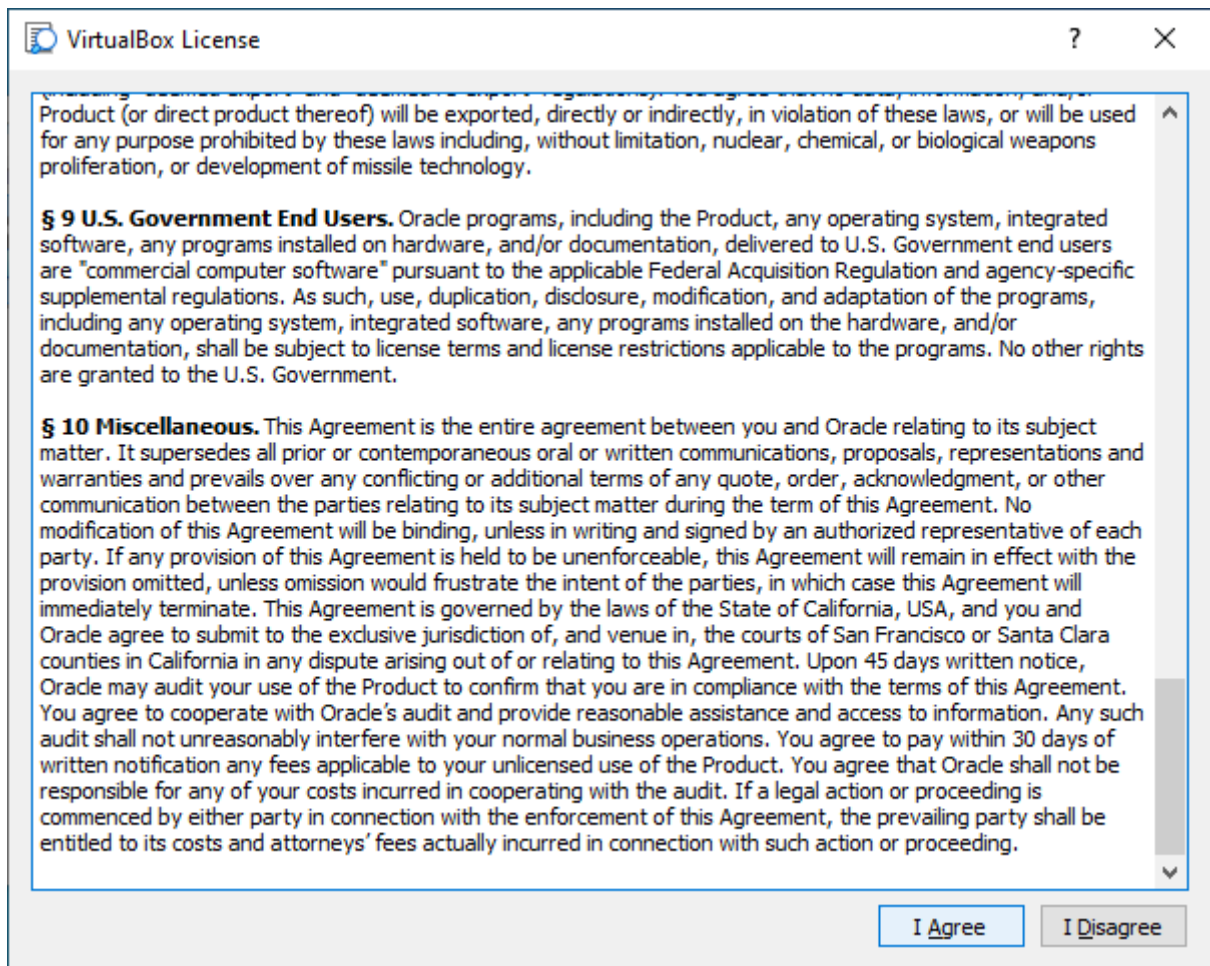


Aiemmin haettu extpack valitaan ja sitten klikataan “Open”.

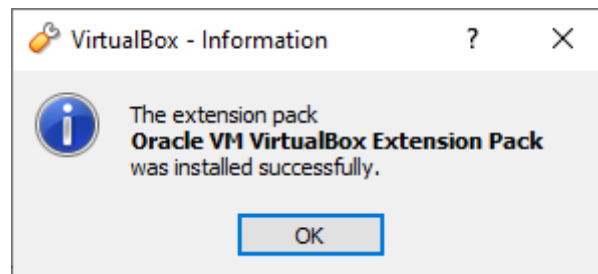


Tässä kohtaa klikataan hiiren vasemmalla painikkeella “Install”.

Huom. Laajennuspaketin versionumero täsmättävä VirtualBoxin versionumeroon.

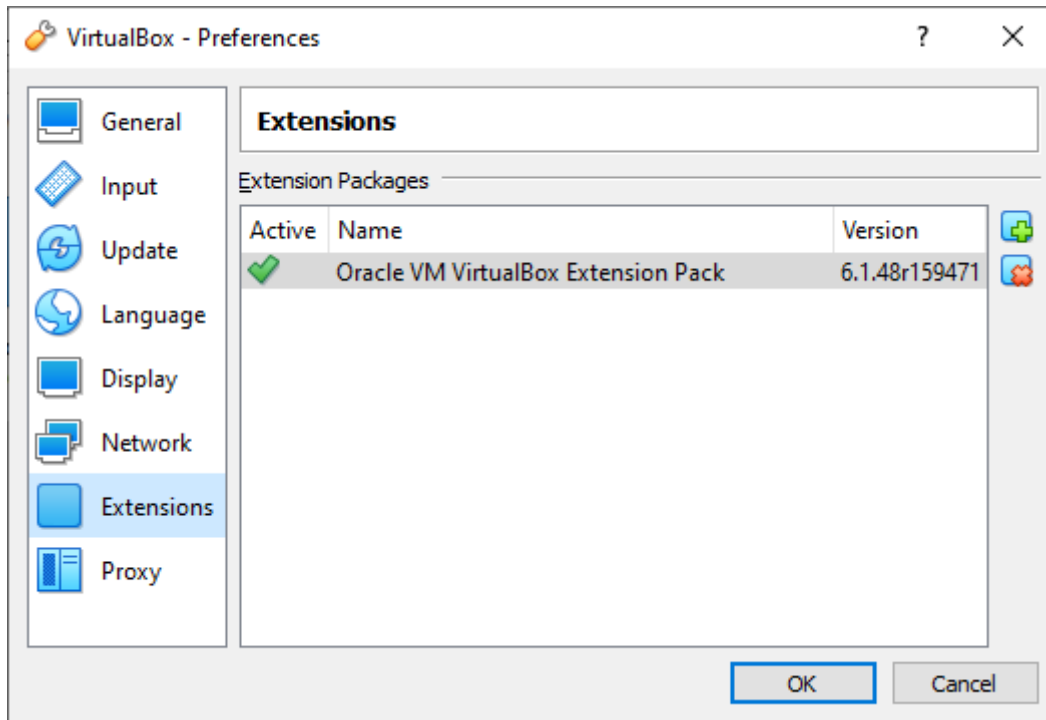


Lisenssitekstin loppuun kelaamisen jälkeen klikataan “I Agree”.



Kuitataan tämä klikkaamalla “OK”.

Nyt pitäisi tilanteen näyttää tältä.



(Väärät versiot poistettava “Extensions”-näköymästä. Valitaan poistettava versio “Name”-sarakkeen alta jonka jälkeen punaisen “x”-painikkeen klikkaus.)

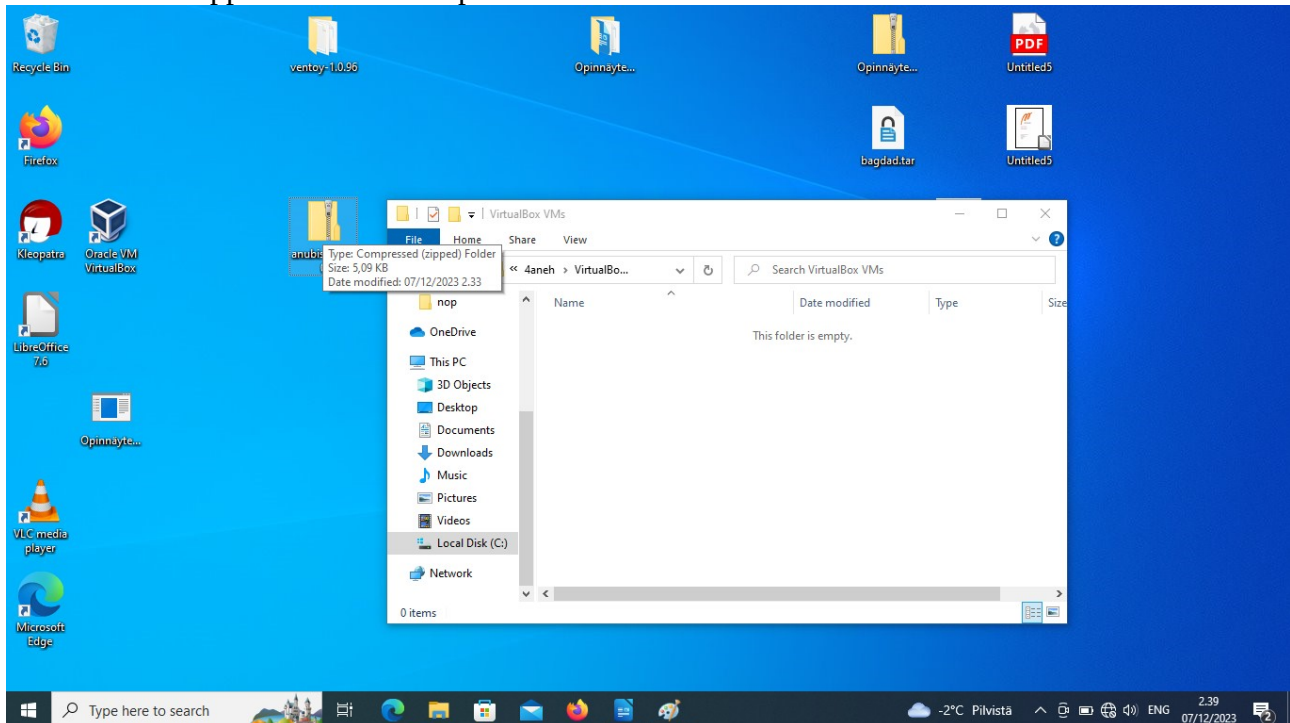
## 6. virtuaalikoneen tuonti

Ensin tietenkin puretaan zip VirtualBoxin hakemiston alle.

Windowsin tapauksessa zip siis “pudotetaan” sinne vbox:in hakemistoon (eli se “VirtualBox Vms”).

Tässä esimerkissä zip:in nimenä anubis-host-0.zip .

TODO:kuvakaappaukset windows-puolella uusiksi



Sen jälkeen hiiren oikealla napilla kontekstivalikko esiin. Ensiksi tarkistus esim. Defenderillä jonka jälkeen paketin purku. Sitä varten valikosta löytyy “extract all”. 7-zip:in tapauksessa myös “7-zip → extract here” käy.



← Extract Compressed (Zipped) Folders

## Select a Destination and Extract Files

Files will be extracted to this folder:

C:\Users\4aneh\VirtualBox VMs\anubis-host-0

Browse...

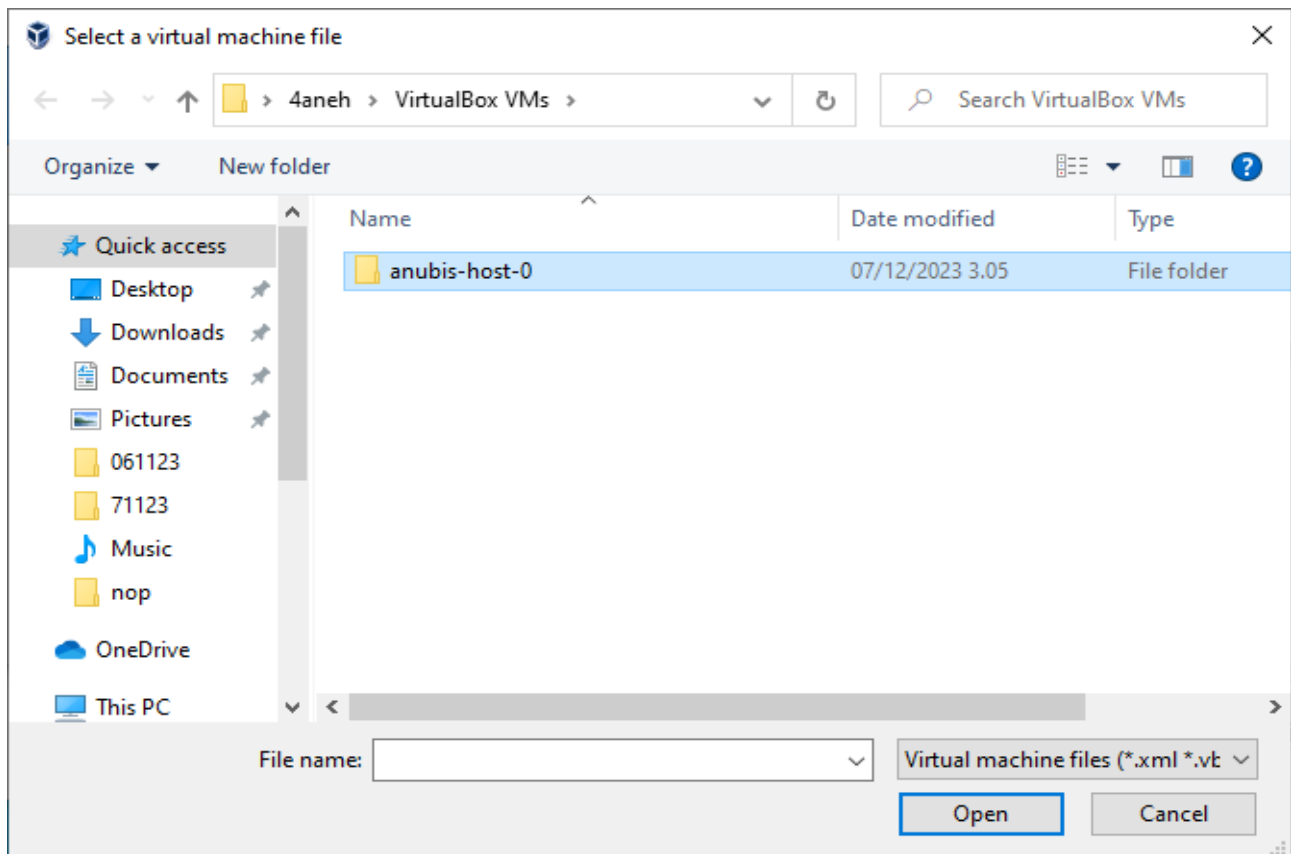
☒ Show extracted files when complete

Extract

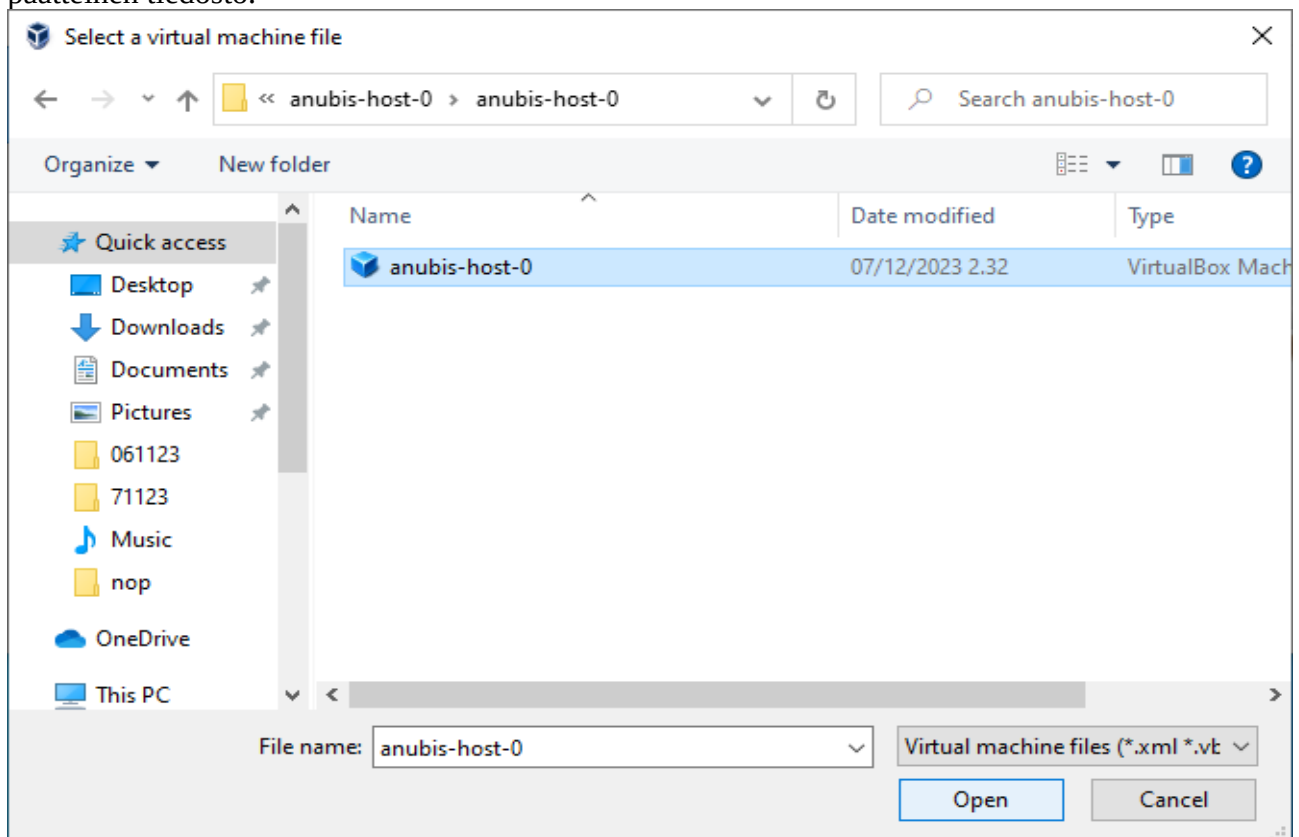
Cancel

Sitten valikosta Machine → add.



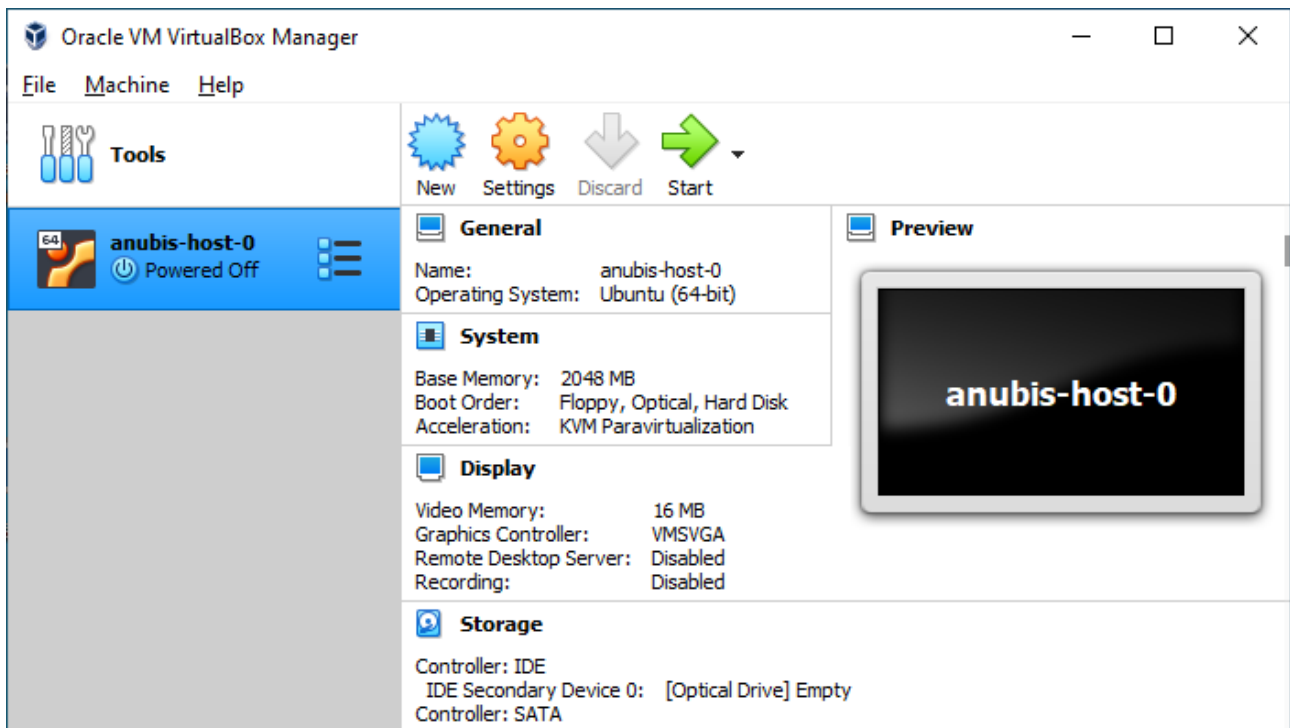


Sitten etsitään se hakemisto mikä zipin purkamisen yhteydessä luotiin. Sieltä pitäisi löytyä “.vbox”-päätteinen tiedosto.

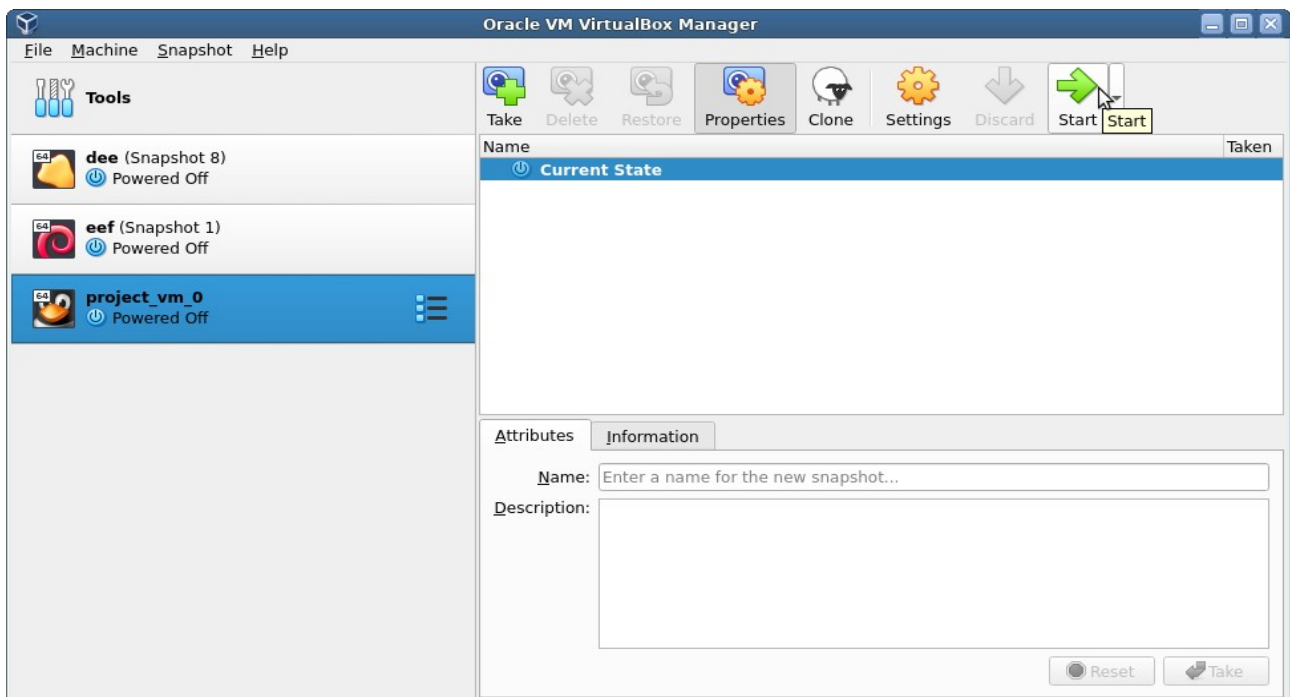


Valitaan tässä kohtaa hiiren vasemmalla painikkeella vkone-tiedosto jonka jälkeen klikataan “Open”.

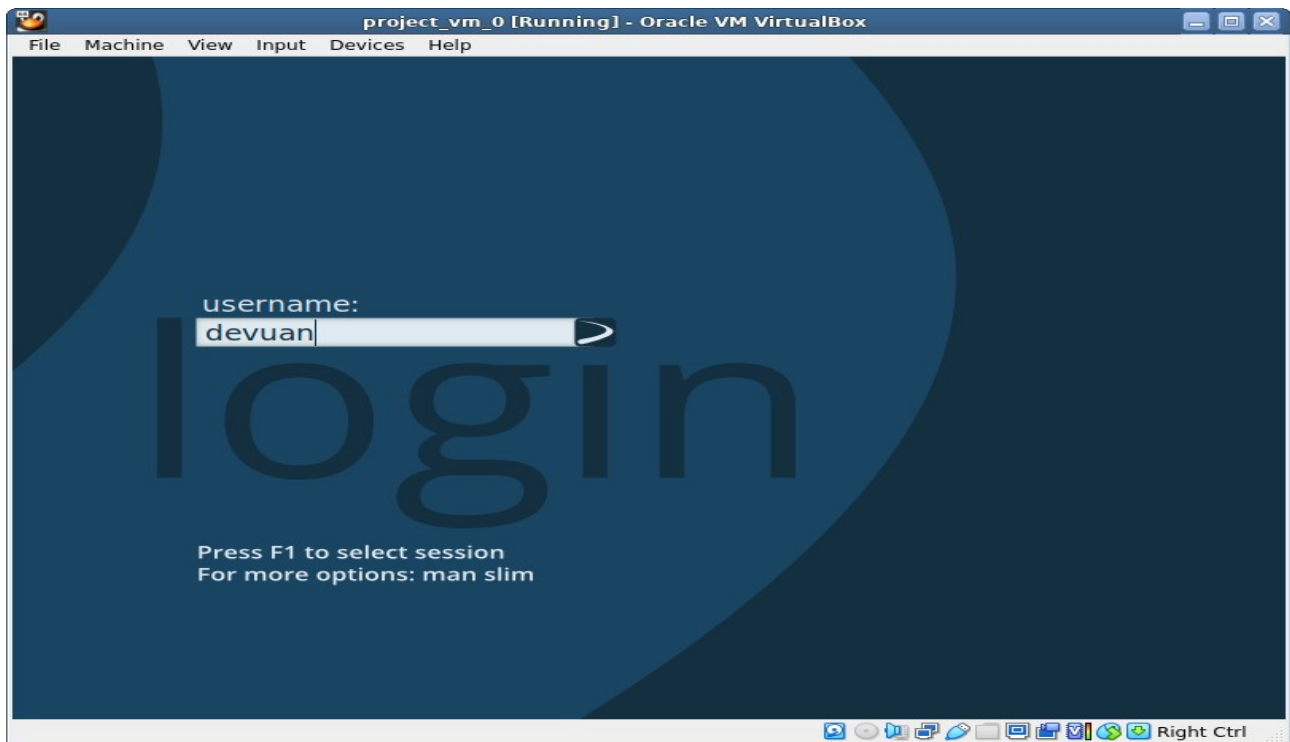
Nyt tulisi lisätyn virtuaalikoneen näkyä VirtualBoxin pääikkunan vasemmassa palkissa.



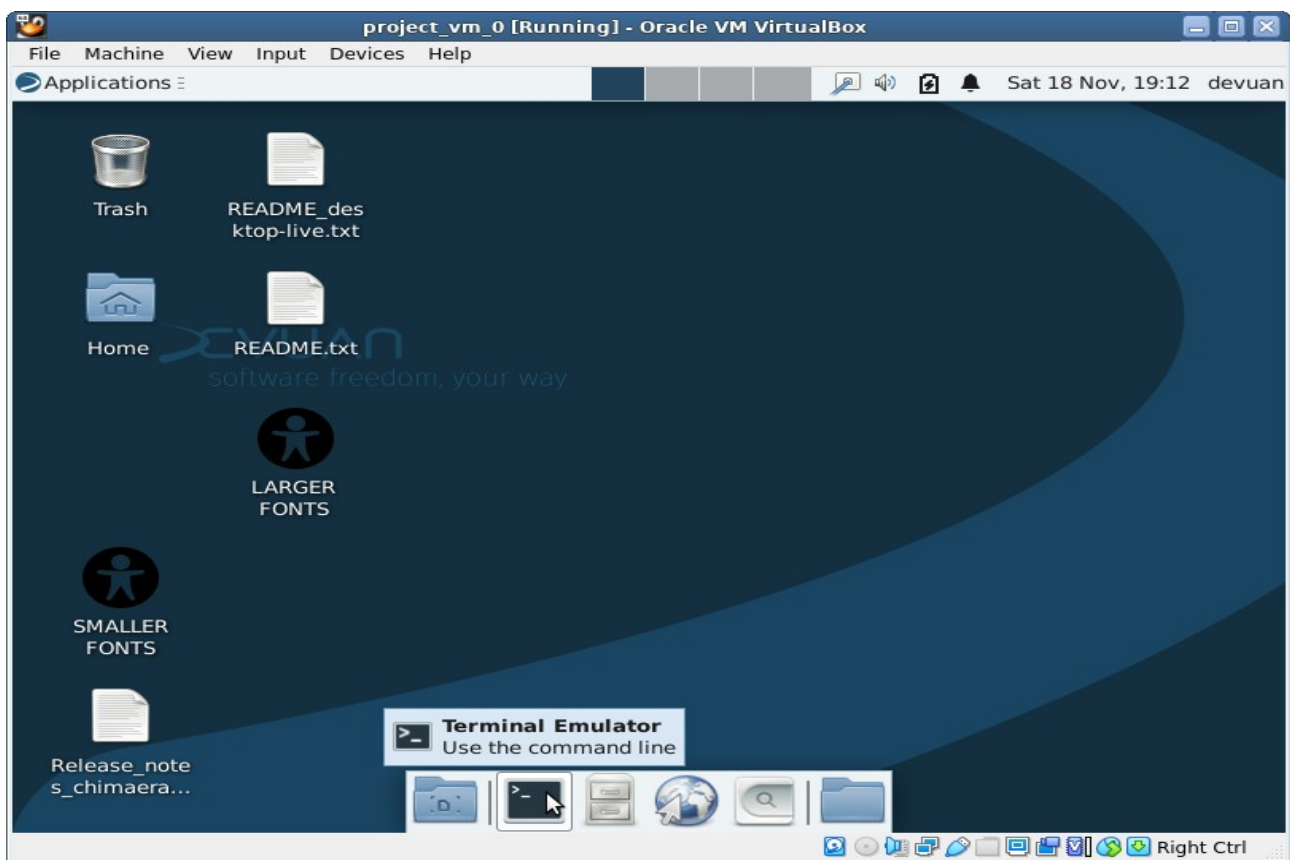
## 6.5. jatko



Käynnistys tapahtuu s.e. valitaan(klikkaus vasemmalla) lisätty vkone vasemmasta palkista ja yläpalkista klikataan “start”.



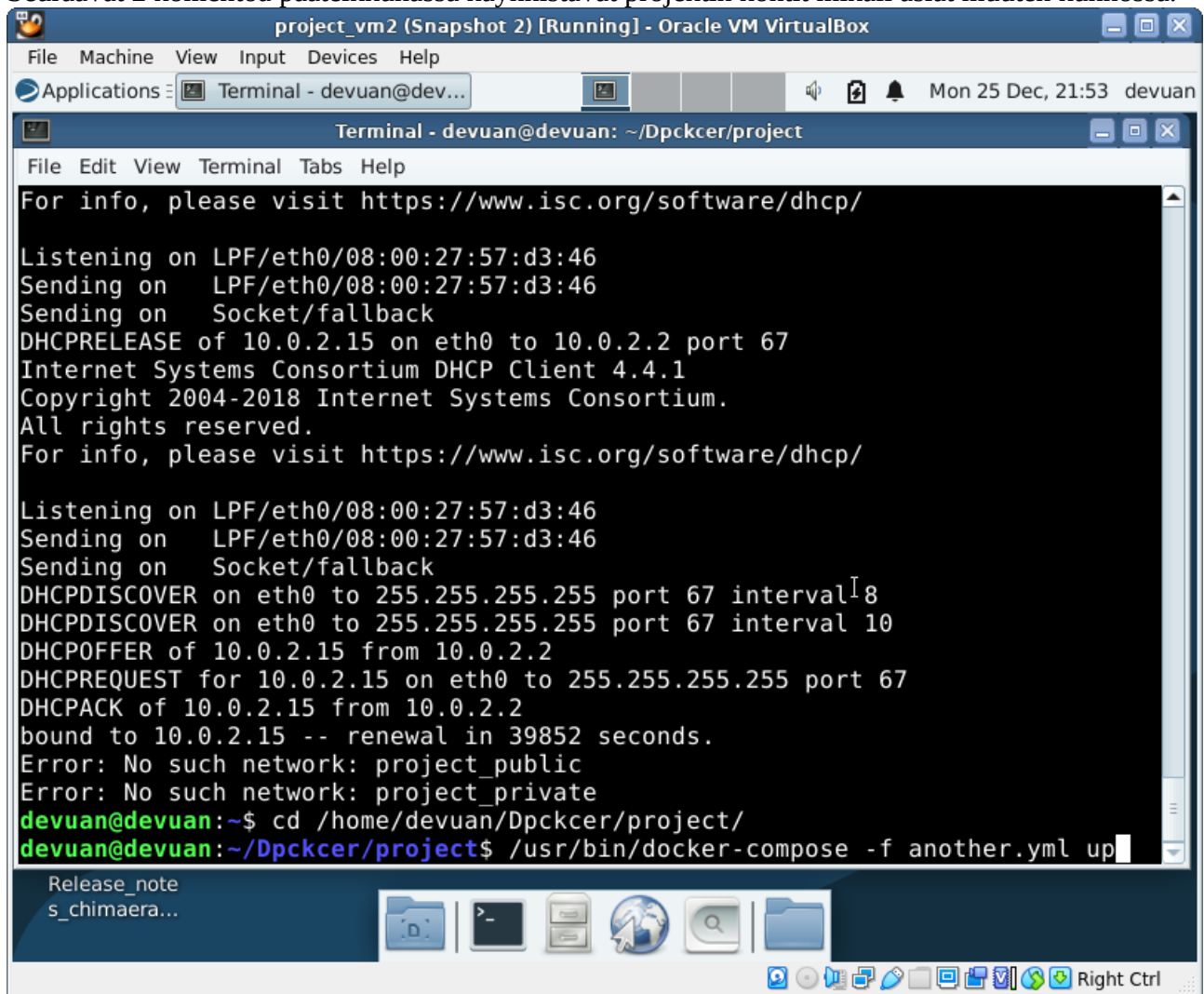
Kun virtuaalikone käynnistynyt, syötetään tunnus “username”-kohdan alle+enter ja sen jälkeen salasana+enter. Tunnuksena tässä “devuan”.



Seuraavaksi käynnistetään pääte, xfce:n “tarjottimesta” klikataan toinen kuvake vasemmalta lukien.



Seuraavat 2 komentoa pääteikkunassa käynnistävät projektin kontit mikäli asiat muuten kunnossa.



The screenshot shows a VirtualBox window titled "project\_vm2 (Snapshot 2) [Running] - Oracle VM VirtualBox". Inside, a terminal window titled "Terminal - devuan@devuan: ~/Dpckcer/project" displays the following output:

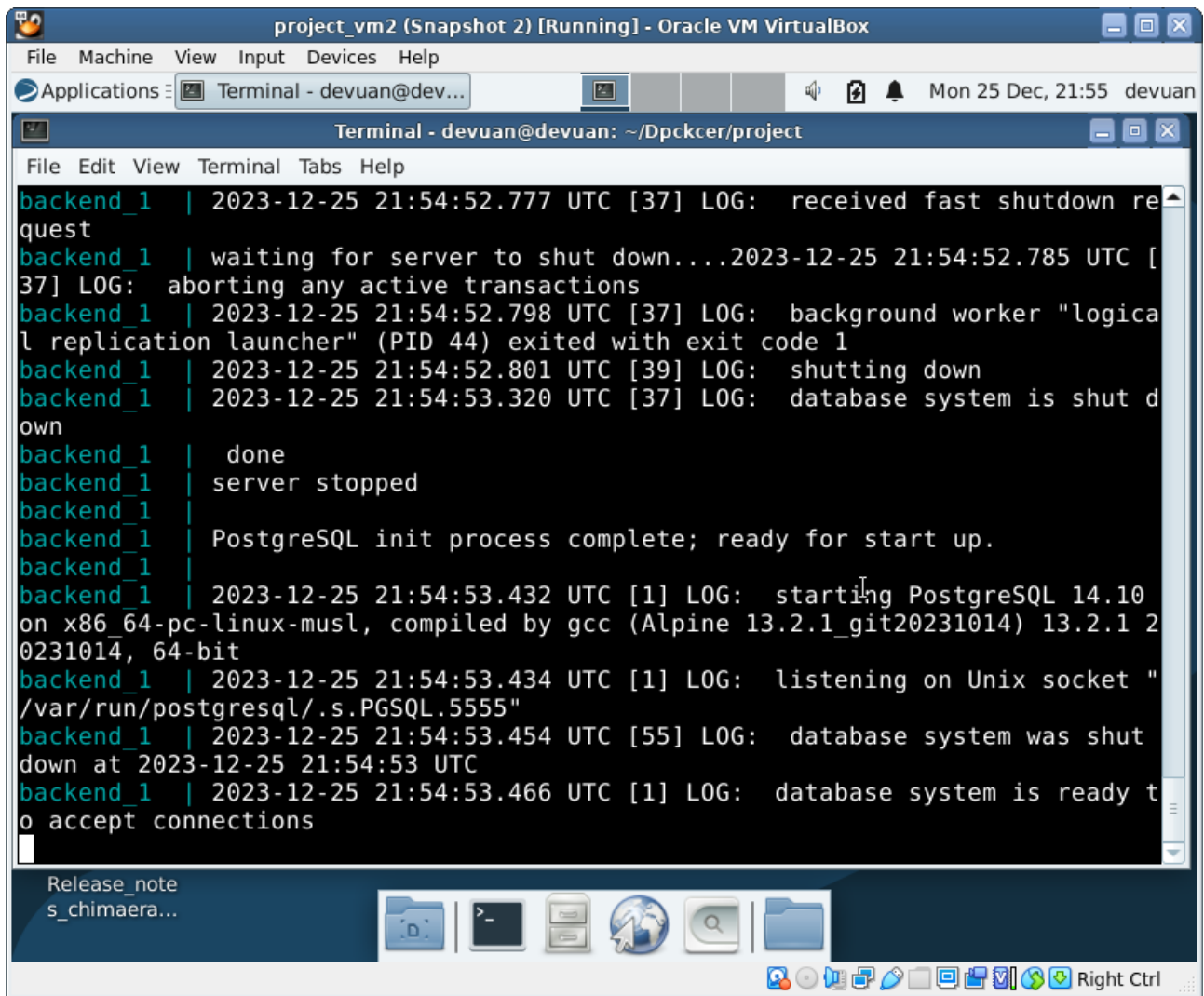
```
File Edit View Terminal Tabs Help
For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/08:00:27:57:d3:46
Sending on   LPF/eth0/08:00:27:57:d3:46
Sending on   Socket/fallback
DHCPRELEASE of 10.0.2.15 on eth0 to 10.0.2.2 port 67
Internet Systems Consortium DHCP Client 4.4.1
Copyright 2004-2018 Internet Systems Consortium.
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For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/08:00:27:57:d3:46
Sending on   LPF/eth0/08:00:27:57:d3:46
Sending on   Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 8
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 10
DHCPOFFER of 10.0.2.15 from 10.0.2.2
DHCPREQUEST for 10.0.2.15 on eth0 to 255.255.255.255 port 67
DHCPACK of 10.0.2.15 from 10.0.2.2
bound to 10.0.2.15 -- renewal in 39852 seconds.
Error: No such network: project_public
Error: No such network: project_private
devuan@devuan:~$ cd /home/devuan/Dpckcer/project/
devuan@devuan:~/Dpckcer/project$ /usr/bin/docker-compose -f another.yml up
```

The terminal window has a menu bar (File, Edit, View, Terminal, Tabs, Help) and a toolbar. The bottom of the window shows a taskbar with icons for a file manager, terminal, and other applications, along with system status icons and a "Right Ctrl" button.

Eli komentoina “cd / home / devuan / Dpckcer / project”+enter sekä “/ usr / bin / docker-compose -f another.yml up”+enter.

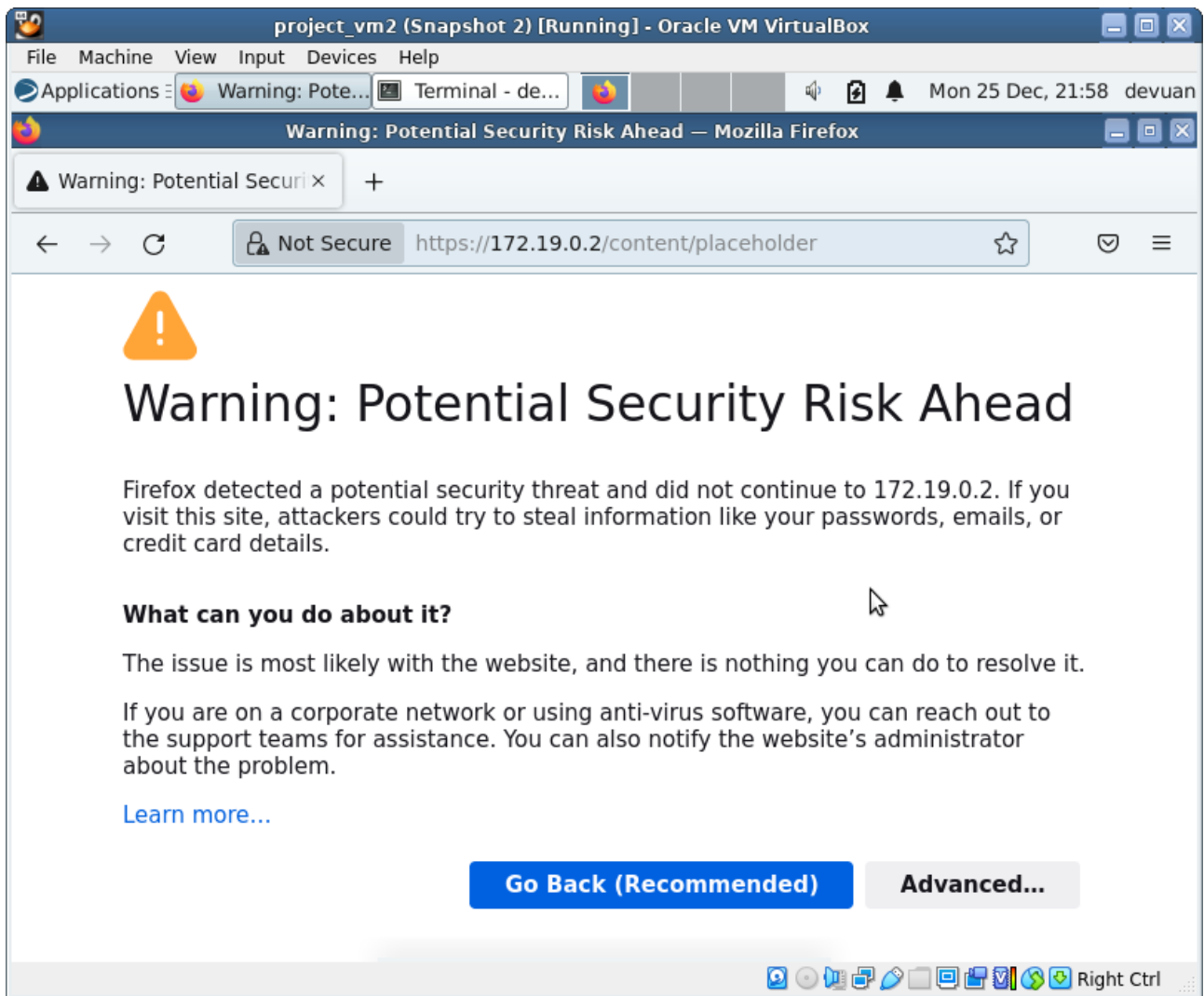


The screenshot shows a VirtualBox window titled "project\_vm2 (Snapshot 2) [Running] - Oracle VM VirtualBox". Inside, a terminal window titled "Terminal - devuan@devuan: ~/Dpckcer/project" displays the following log output:

```
backend_1 | 2023-12-25 21:54:52.777 UTC [37] LOG:  received fast shutdown request
backend_1 | waiting for server to shut down....2023-12-25 21:54:52.785 UTC [37] LOG:  aborting any active transactions
backend_1 | 2023-12-25 21:54:52.798 UTC [37] LOG:  background worker "logical replication launcher" (PID 44) exited with exit code 1
backend_1 | 2023-12-25 21:54:52.801 UTC [39] LOG:  shutting down
backend_1 | 2023-12-25 21:54:53.320 UTC [37] LOG:  database system is shut down
backend_1 | done
backend_1 | server stopped
backend_1 | PostgreSQL init process complete; ready for start up.
backend_1 | 2023-12-25 21:54:53.432 UTC [1] LOG:  starting PostgreSQL 14.10 on x86_64-pc-linux-musl, compiled by gcc (Alpine 13.2.1_git20231014) 13.2.1 20231014, 64-bit
backend_1 | 2023-12-25 21:54:53.434 UTC [1] LOG:  listening on Unix socket "/var/run/postgresql/.s.PGSQL.5555"
backend_1 | 2023-12-25 21:54:53.454 UTC [55] LOG:  database system was shut down at 2023-12-25 21:54:53 UTC
backend_1 | 2023-12-25 21:54:53.466 UTC [1] LOG:  database system is ready to accept connections
```

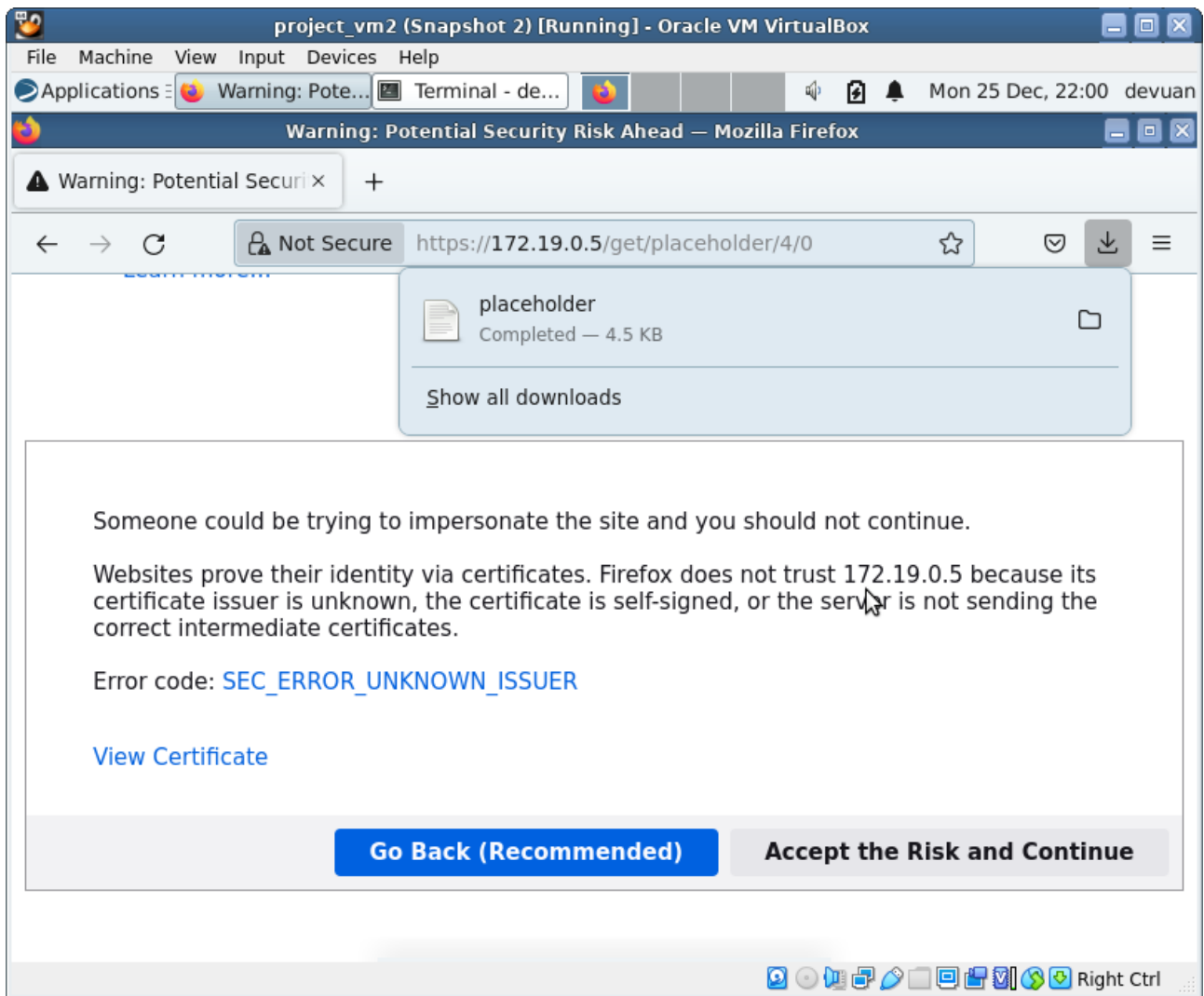
The terminal window also shows a file explorer icon and a search icon in the bottom right corner. The status bar at the bottom of the VirtualBox window indicates "Right Ctrl".

Kannattaa odottaa konttien käynnistymistä jonkin aikaa. Kun näkyy vain “backend\_1” – konttiin liittyviä ilmoituksia, voidaan kokeilla yhteyksiä muihin kontteihin.



Selaimella osoite <https://172.19.0.2/content/placeholder> ohjaa indeksikontin kautta ro-kontille lataamaan tiedoston nimeltään placeholder.

Verkkoon 172.19 liittyvien konttien sertifikaatit hyväksyttävä tässä demossa.



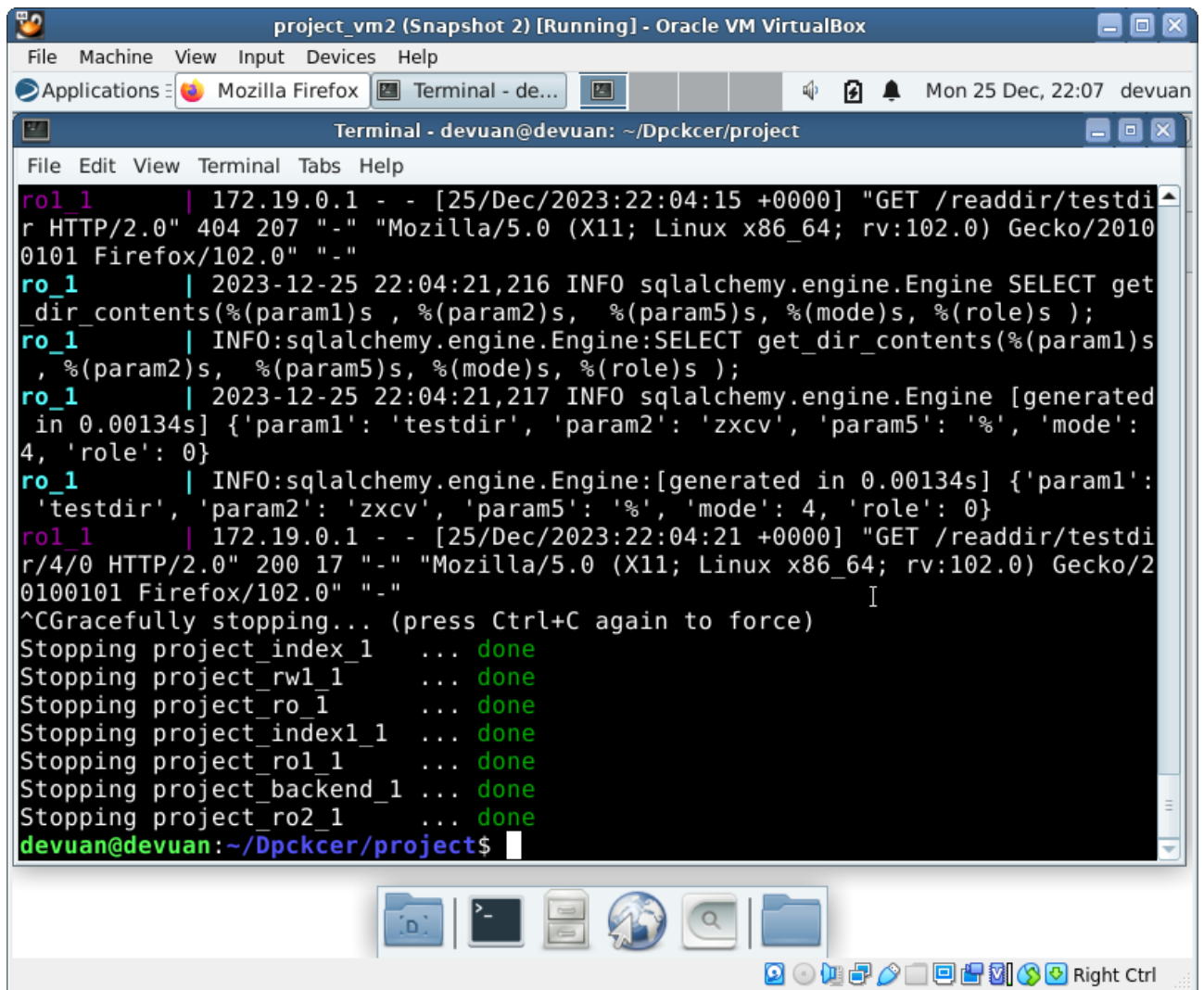
Osoite <https://172.19.0.5/metadata/placeholder> tuo näkyviin placeholder:in allekirjoitus-tiedoston ja otsikoiden mukana ACL-rivit.

Puolestaan <https://172.19.0.5/readdir/testdir/4/0> näyttää "AFS-hakemiston" testdir sisällön.

Komento `curl -k -I https://172.19.0.5/metadata/placeholder` näyttää pelkät http-otsikot.

13.1.24 lisäys: .some-domain saattaa myös toimia jonkin verran: un-jong.some/4ktdemo firefoxilla tai lynxillä , ohjautunee välivaiheiden jälkeen ip-osoitteeseen 172.19.0.5 .

Sitten ctrl+c pääteikkunassa, missä kontit käynnistettiin, sammuttaa kontit. Varmuuden vuoksi kuuluisi antaa komento /usr /bin /docker-compose -f another.yml down .



```
project_vm2 (Snapshot 2) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications: Mozilla Firefox Terminal - de... Mon 25 Dec, 22:07 devuan

Terminal - devuan@devuan: ~/Dpckcer/project
File Edit View Terminal Tabs Help

ro1_1 | 172.19.0.1 - - [25/Dec/2023:22:04:15 +0000] "GET /readdir/testdi
r HTTP/2.0" 404 207 "-" "Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/2010
0101 Firefox/102.0" "-"
ro_1 | 2023-12-25 22:04:21,216 INFO sqlalchemy.engine.Engine SELECT get
_dir_contents(%(param1)s , %(param2)s, %(param5)s, %(mode)s, %(role)s );
ro_1 | INFO:sqlalchemy.engine.Engine:SELECT get_dir_contents(%(param1)s
, %(param2)s, %(param5)s, %(mode)s, %(role)s );
ro_1 | 2023-12-25 22:04:21,217 INFO sqlalchemy.engine.Engine [generated
in 0.00134s] {'param1': 'testdir', 'param2': 'zxcv', 'param5': '%', 'mode':
4, 'role': 0}
ro_1 | INFO:sqlalchemy.engine.Engine:[generated in 0.00134s] {'param1':
'testdir', 'param2': 'zxcv', 'param5': '%', 'mode': 4, 'role': 0}
ro1_1 | 172.19.0.1 - - [25/Dec/2023:22:04:21 +0000] "GET /readdir/testdi
r/4/0 HTTP/2.0" 200 17 "-" "Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/2
0100101 Firefox/102.0" "-"
^CGracefully stopping... (press Ctrl+C again to force)
Stopping project_index_1 ... done
Stopping project_rw1_1 ... done
Stopping project_ro_1 ... done
Stopping project_index1_1 ... done
Stopping project_ro1_1 ... done
Stopping project_backend_1 ... done
Stopping project_ro2_1 ... done
devuan@devuan:~/Dpckcer/project$
```

Vaiheet 7 ja eteenpäin sitä varten jos haluaakin tehdä “käsipelillä”.  
Kohdasta 15 eteenpäin näytetään miten projekti asennetaan valmiiseen virtuaalikoneeseen.