

Everlyn Leon

## Abstract

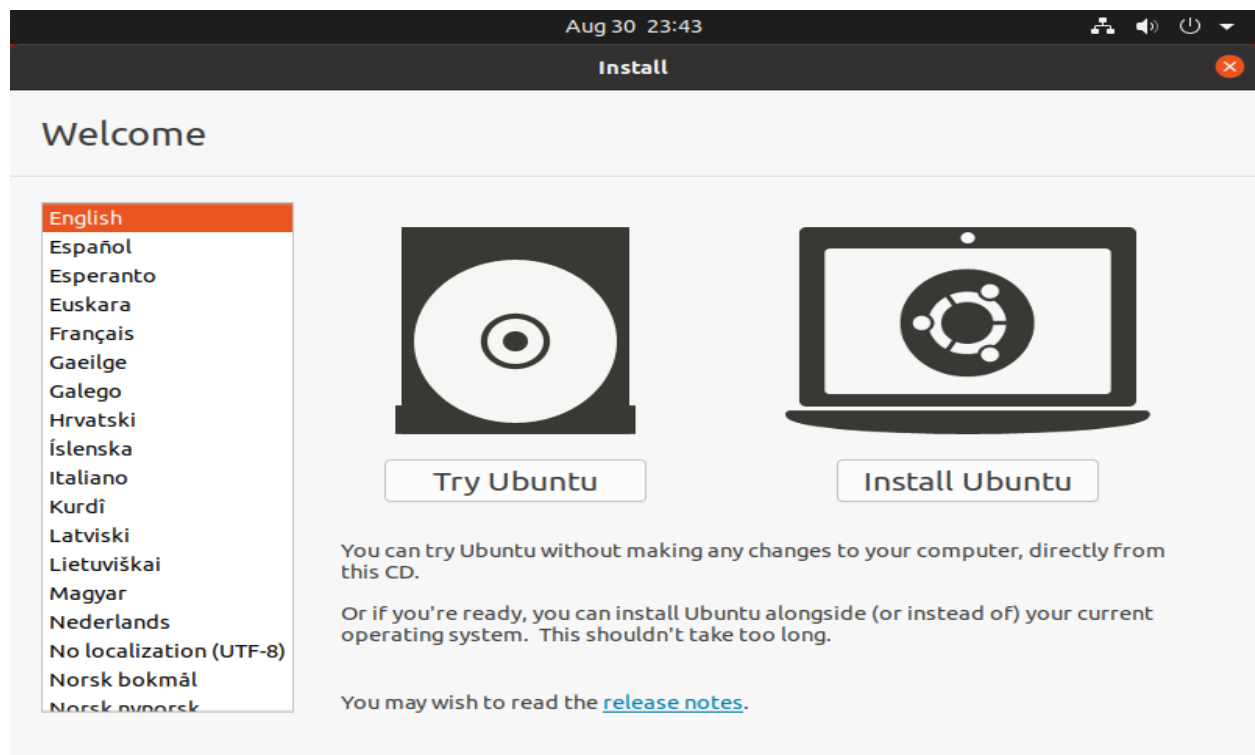
Installing a Ubuntu OS via the Oracle VM VirtualBox Manager to show what can be done with the command 'uname -a' using the Command Line.

## Introduction

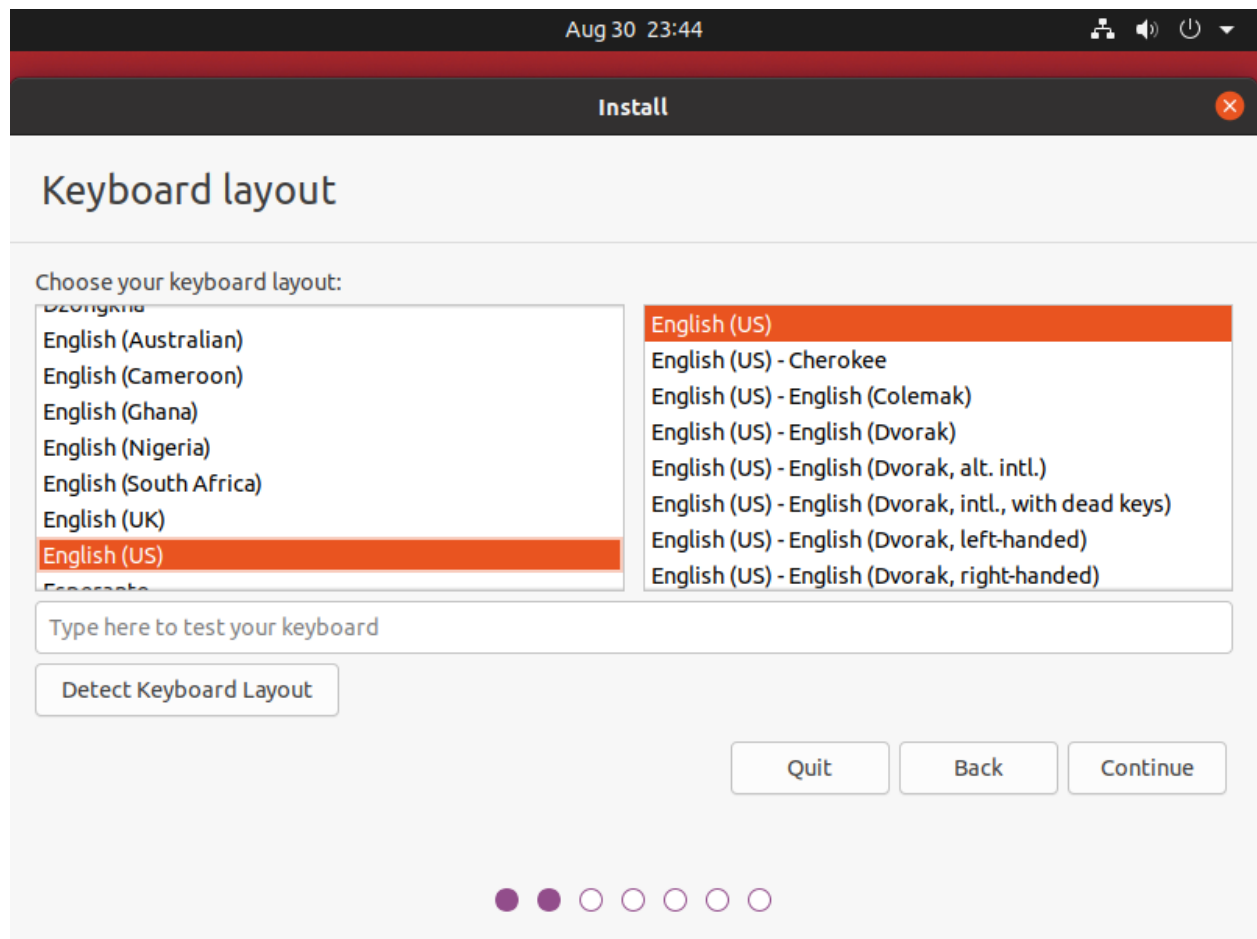
The Oracle VM VirtualBox will be used to demonstrate the installation of the Ubuntu OS. The Ubuntu OS will be updated using the command 'sudo apt-get update' via Command Line. The purpose of the command 'uname -a' will be explained when the shorter command 'uname' is inputted into the Command Line.

## Summary of Results

On the VirtualBox manager, run the Ubuntu iso to install the Ubuntu operating system. Once loaded, you will be prompted to select the preferred language.



Select the preferred keyboard layout language.



Select the installation preferred by the user, which in this case would be a “Normal installation”, as well as selecting the “Download updates while installing Ubuntu”, to make installation easier.

Aug 30 23:44

## Install

### Updates and other software

**What apps would you like to install to start with?**

☒ Normal installation  
Web browser, utilities, office software, games, and media players.

☐ Minimal installation  
Web browser and basic utilities.

**Other options**

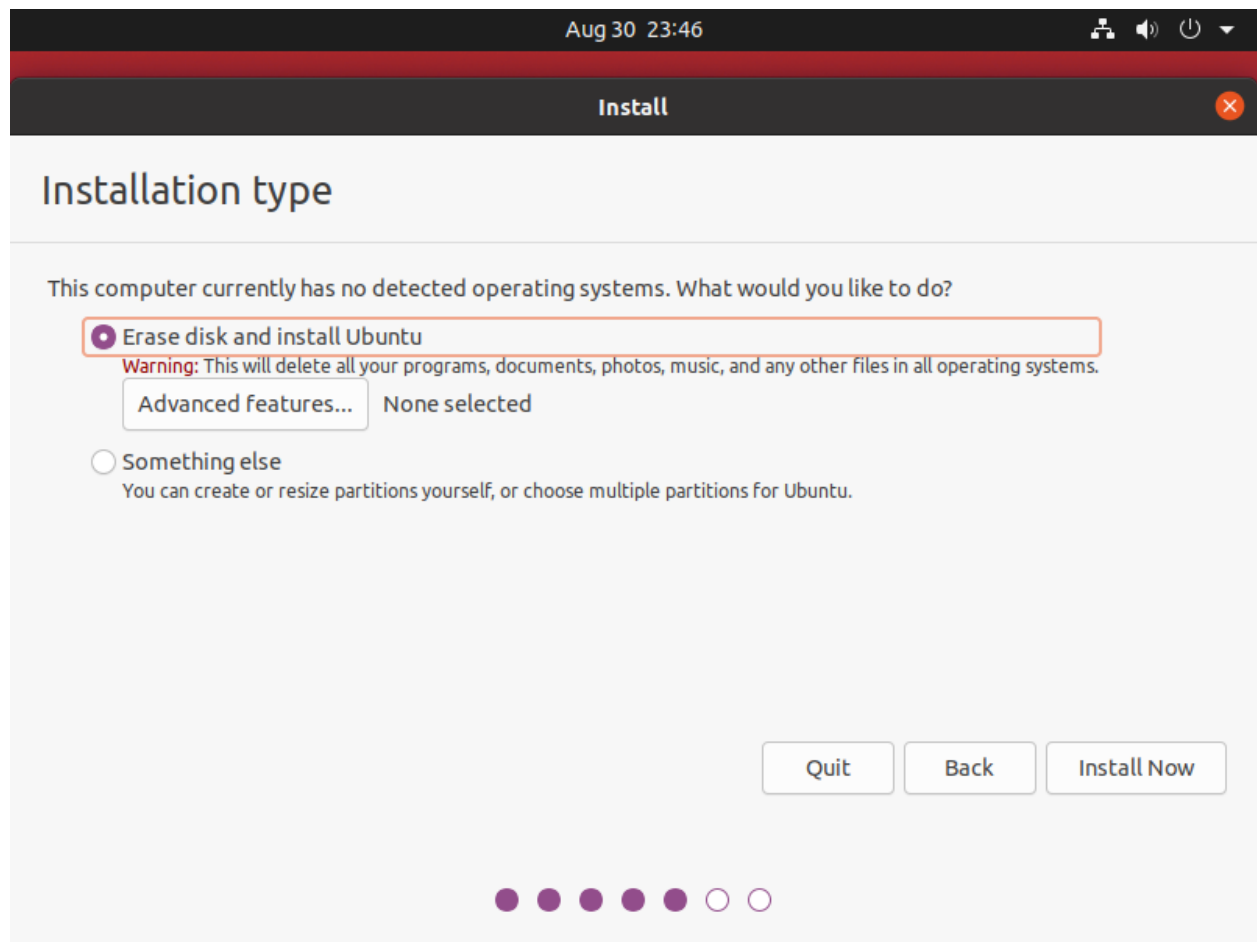
☒ Download updates while installing Ubuntu  
This saves time after installation.

☐ Install third-party software for graphics and Wi-Fi hardware and additional media formats  
This software is subject to license terms included with its documentation. Some is proprietary.

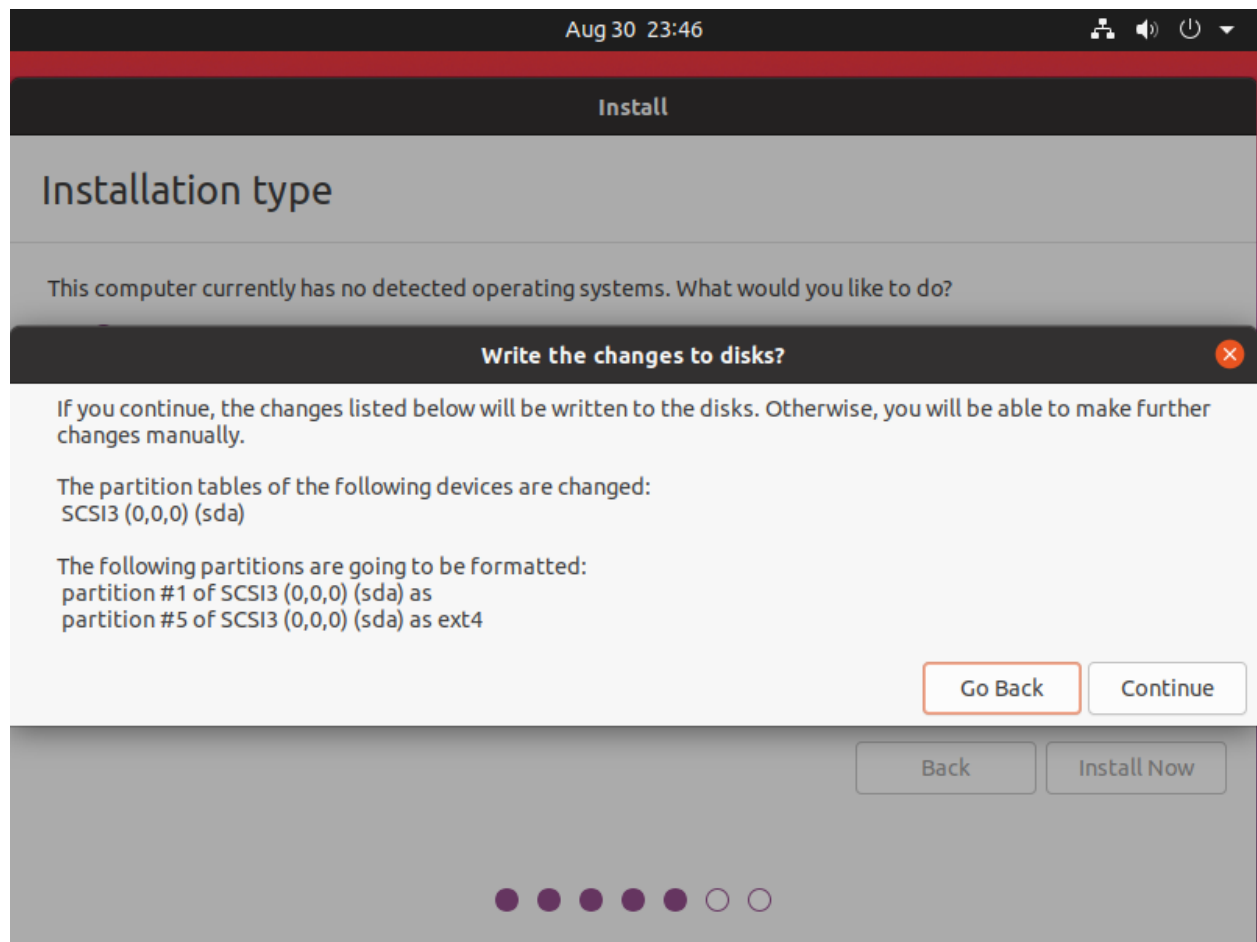
Quit Back Continue

Progress indicator: 4 of 7 steps completed.

Choose “Erase disk and install Ubuntu” since this is using a Virtual Machine, it is not actually removing your computers files.



Agree to the changes made to the disk and click on 'continue' to continue the installation of the Ubuntu OS.



Fill in the prompted information.

Aug 30 16:51

Install

## Who are you?

Your name:  ✓

Your computer's name:  ✓  
The name it uses when it talks to other computers.

Pick a username:  ✓

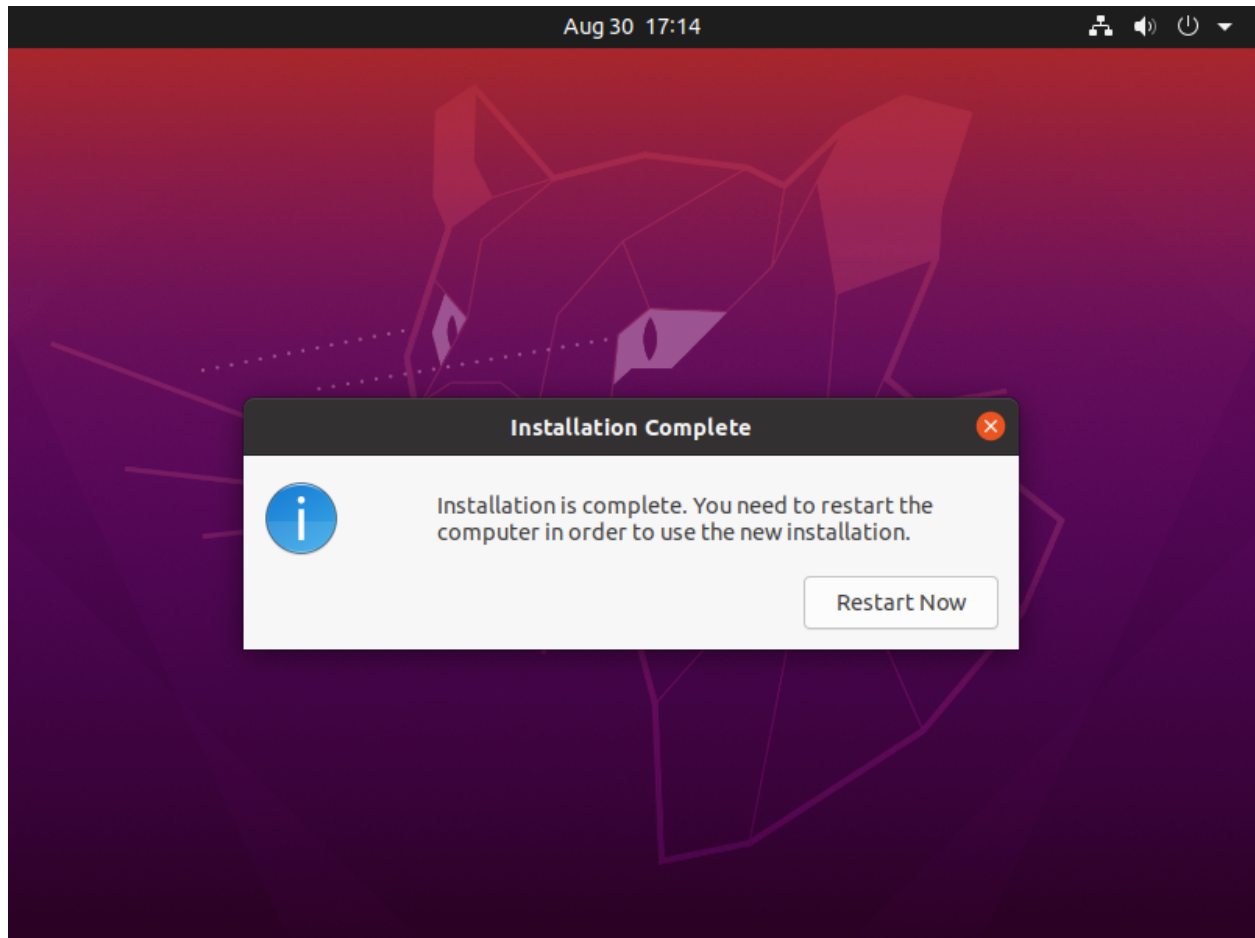
Choose a password:  Good password

Confirm your password:  ✓

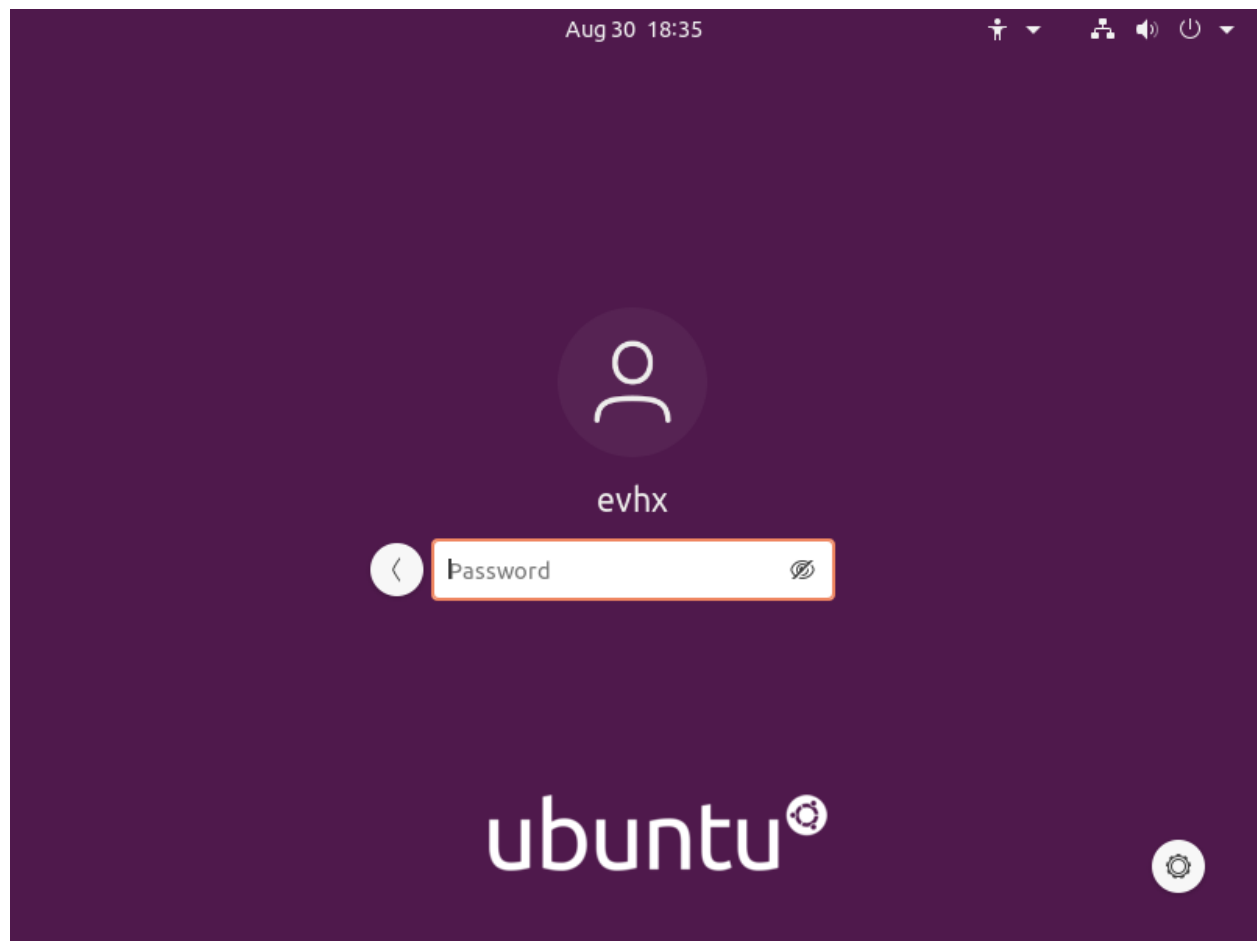
☐ Log in automatically  
☒ Require my password to log in

● ● ● ● ● ● ●

The installation is now complete, reboot the machine as prompted.

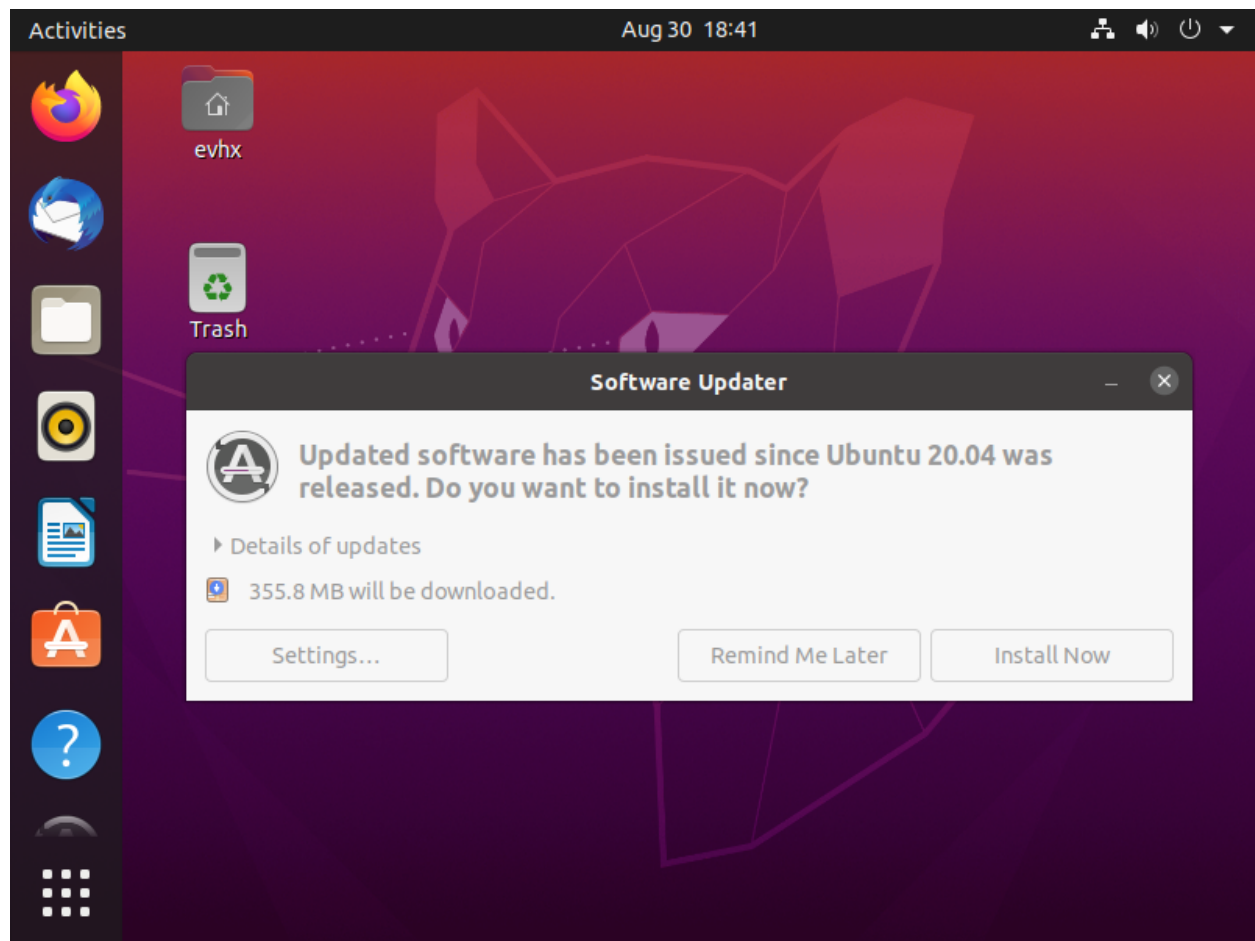


Input your password to log into the Virtual Machine.

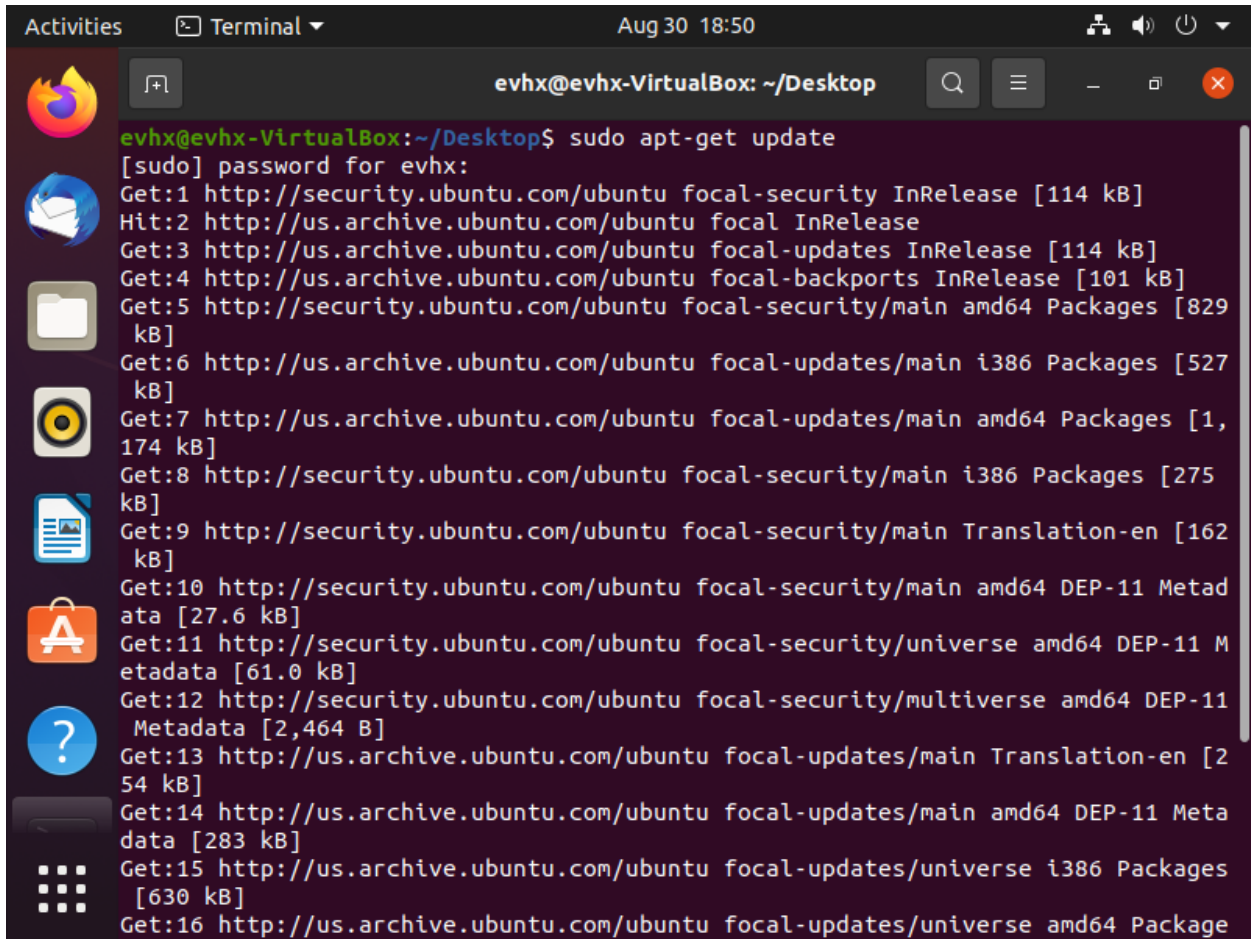




If the “Software Updater” asks to install updates, click “install now”, and then reboot Ubuntu.



To update the Ubuntu OS once again, type in the command:  
`sudo apt-get update`



The screenshot shows a terminal window titled "evhx@evhx-VirtualBox: ~/Desktop". The user has entered the command `sudo apt-get update`. The terminal output shows the process of updating the package lists from various Ubuntu repositories. It includes details for security updates, focal updates, and backports, listing the source URL, package name, and size for each update. The output is as follows:

```
evhx@evhx-VirtualBox:~/Desktop$ sudo apt-get update
[sudo] password for evhx:
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://us.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://us.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:5 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [829 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [527 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1,174 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [275 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [162 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [27.6 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [61.0 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [2,464 B]
Get:13 http://us.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [254 kB]
Get:14 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [283 kB]
Get:15 http://us.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [630 kB]
Get:16 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Package
```

The `uname` command is used to print the system information. With adding the `-a` option, you can print out all the information, such as the:

Kernel name: Linux

Network Node Hostname: evhx-VirtualBox

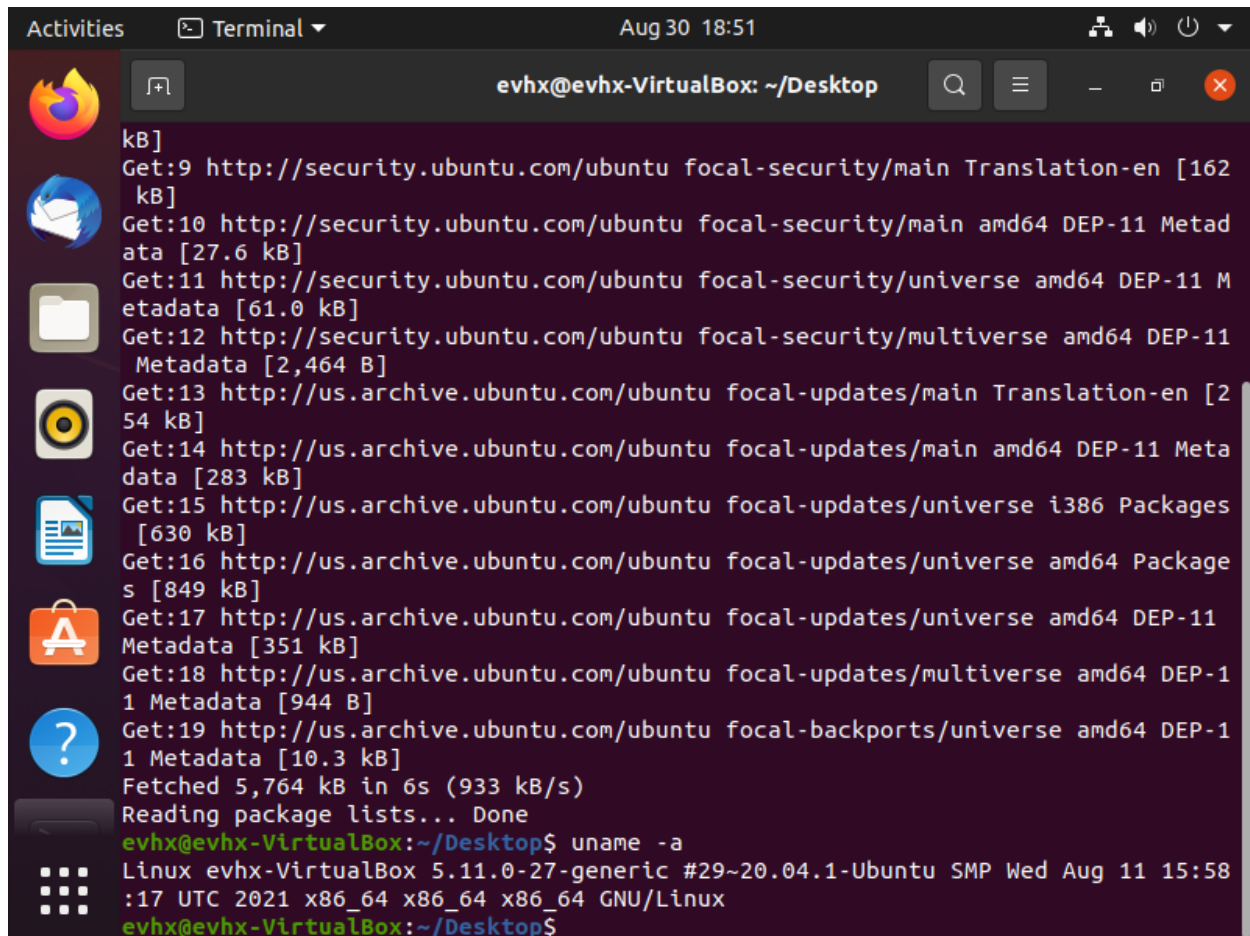
5.11.0-27generic: Kernel Release

#29~20.04.1-Ubuntu SMP Wed Aug 11 15:58:17 UTC 2021: Kernel Version

x86\_64: Machine hardware architecture of the system

x86\_64: Processor architecture type of the system

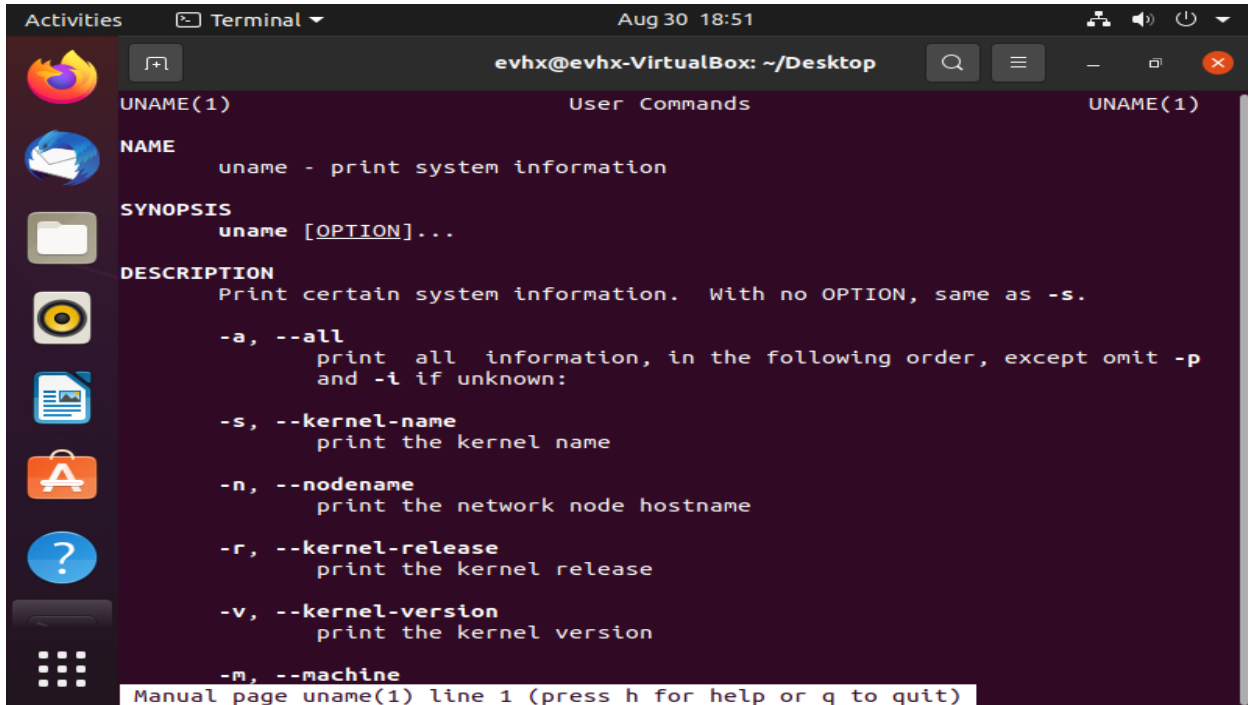
GNU/Linux: Operating System being used.



```
Aug 30 18:51
evhx@evhx-VirtualBox: ~/Desktop

kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [162
kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metad
ata [27.6 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 M
etadata [61.0 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11
Metadata [2,464 B]
Get:13 http://us.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [2
54 kB]
Get:14 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Meta
data [283 kB]
Get:15 http://us.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages
[630 kB]
Get:16 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Package
s [849 kB]
Get:17 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11
Metadata [351 kB]
Get:18 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-1
1 Metadata [944 B]
Get:19 http://us.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-1
1 Metadata [10.3 kB]
Fetched 5,764 kB in 6s (933 kB/s)
Reading package lists... Done
evhx@evhx-VirtualBox:~/Desktop$ uname -a
Linux evhx-VirtualBox 5.11.0-27-generic #29~20.04.1-Ubuntu SMP Wed Aug 11 15:58
:17 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
evhx@evhx-VirtualBox:~/Desktop$
```

To view the manual for the `uname` command, type in the command:  
`man uname`



A terminal window titled "evhx@evhx-VirtualBox: ~/Desktop" showing the output of the `man uname` command. The output is displayed in a dark purple background with white text. The left sidebar shows various application icons. The terminal content includes the following sections:

```
uname(1)                                User Commands                                uname(1)

NAME
    uname - print system information

SYNOPSIS
    uname [OPTION]...

DESCRIPTION
    Print certain system information.  With no OPTION, same as -s.

    -a, --all
        print all information, in the following order, except omit -p
        and -i if unknown:

    -s, --kernel-name
        print the kernel name

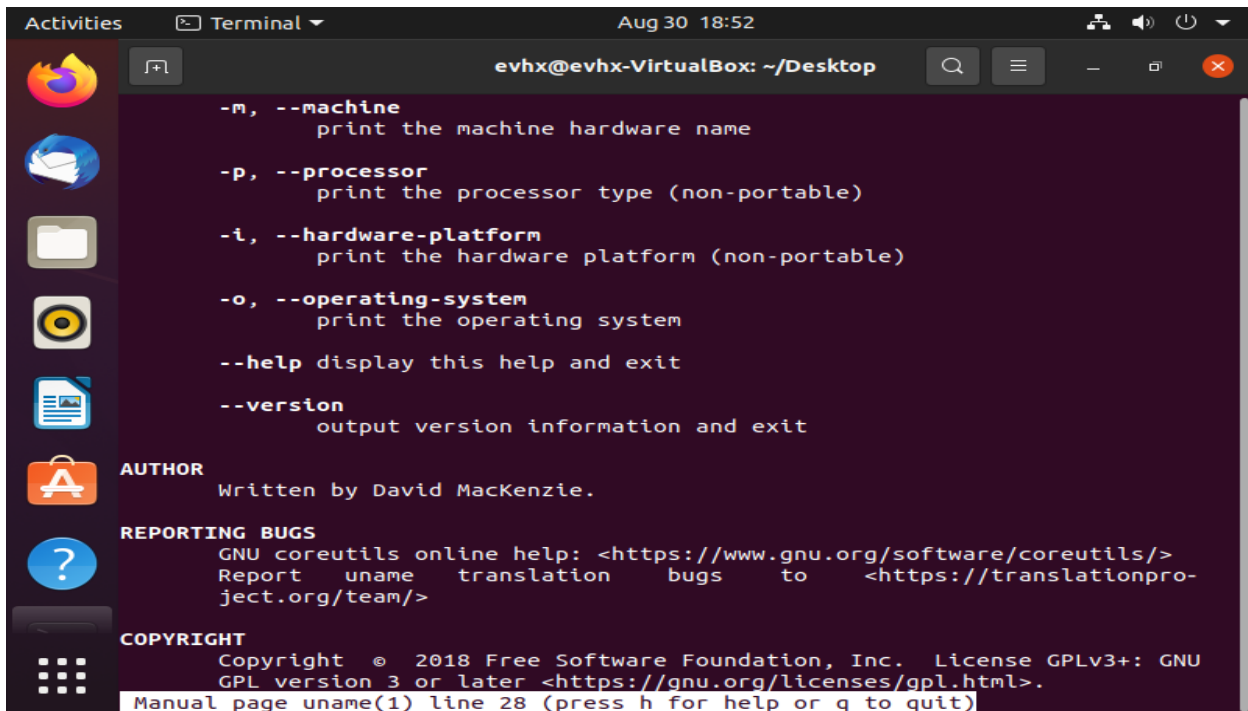
    -n, --nodename
        print the network node hostname

    -r, --kernel-release
        print the kernel release

    -v, --kernel-version
        print the kernel version

    -m, --machine
        print the machine hardware name

Manual page uname(1) line 1 (press h for help or q to quit)
```



A terminal window titled "evhx@evhx-VirtualBox: ~/Desktop" showing the continuation of the `man uname` command output. The terminal content includes the following sections:

```
    -p, --processor
        print the processor type (non-portable)

    -i, --hardware-platform
        print the hardware platform (non-portable)

    -o, --operating-system
        print the operating system

    --help display this help and exit

    --version
        output version information and exit

AUTHOR
    Written by David MacKenzie.

REPORTING BUGS
    GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
    Report uname translation bugs to <https://translationproject.org/team/>

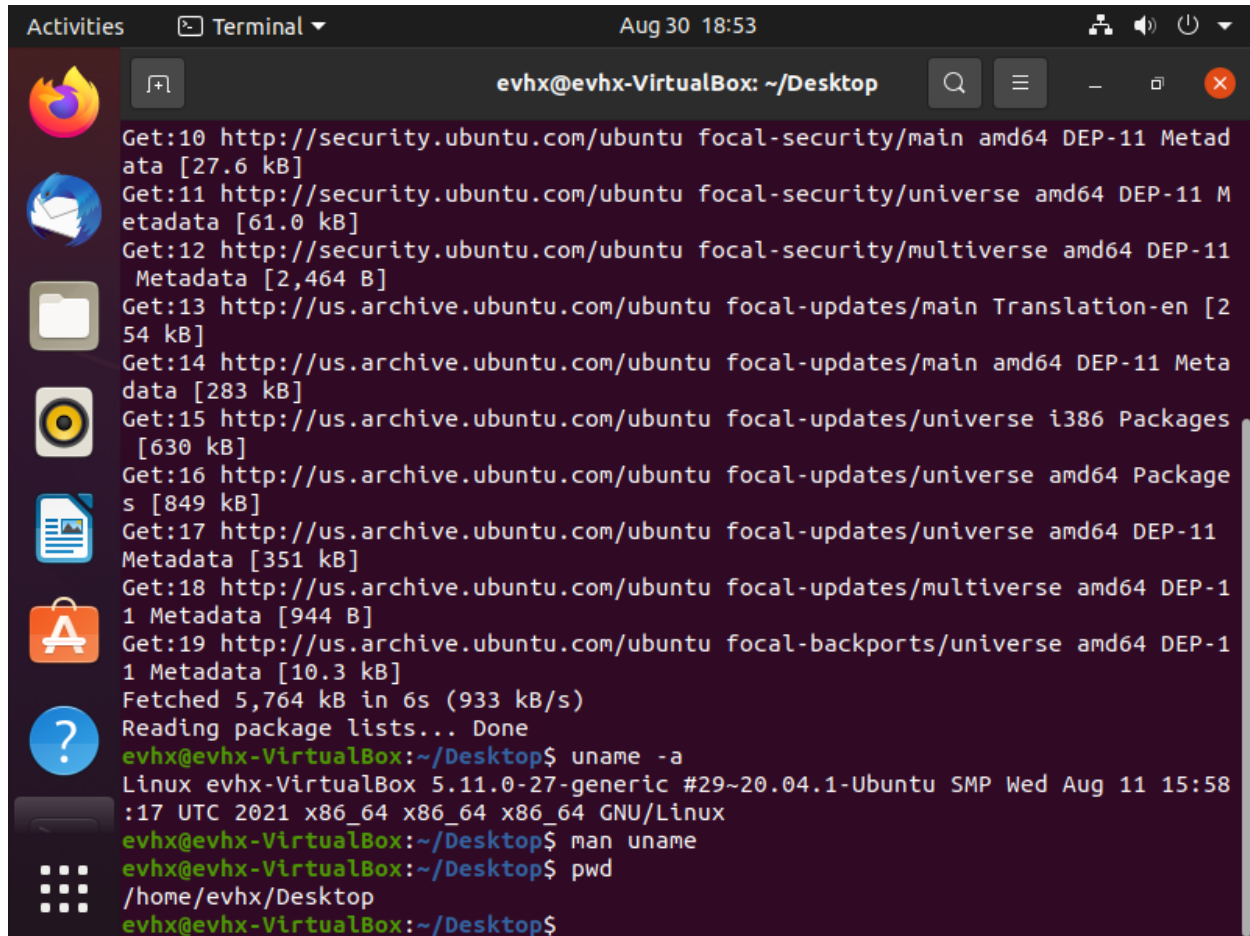
COPYRIGHT
    Copyright © 2018 Free Software Foundation, Inc.  License GPLv3+: GNU
    GPL version 3 or later <https://gnu.org/licenses/gpl.html>.

Manual page uname(1) line 28 (press h for help or q to quit)
```

As seen in the previous images, the information displayed from using the command:

```
uname -a
```

gives the kernel name, network node hostname, kernel release, kernel version, machine's hardware name, the processor information, and the operating system being used.



The screenshot shows a terminal window titled "evhx@evhx-VirtualBox: ~/Desktop" with a search bar and window controls. The terminal output shows a series of package updates being fetched from security.ubuntu.com and us.archive.ubuntu.com. After the updates, the user runs the command `uname -a`, which displays the system information: `Linux evhx-VirtualBox 5.11.0-27-generic #29~20.04.1-Ubuntu SMP Wed Aug 11 15:58:17 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux`. The user then runs `man uname` and `pwd`, which shows the current directory as `/home/evhx/Desktop`.

```
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metad
ata [27.6 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 M
etadadata [61.0 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11
Metadata [2,464 B]
Get:13 http://us.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [2
54 kB]
Get:14 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Meta
data [283 kB]
Get:15 http://us.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages
[630 kB]
Get:16 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Package
s [849 kB]
Get:17 http://us.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11
Metadata [351 kB]
Get:18 http://us.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-1
1 Metadata [944 B]
Get:19 http://us.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-1
1 Metadata [10.3 kB]
Fetched 5,764 kB in 6s (933 kB/s)
Reading package lists... Done
evhx@evhx-VirtualBox:~/Desktop$ uname -a
Linux evhx-VirtualBox 5.11.0-27-generic #29~20.04.1-Ubuntu SMP Wed Aug 11 15:58
:17 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
evhx@evhx-VirtualBox:~/Desktop$ man uname
evhx@evhx-VirtualBox:~/Desktop$ pwd
/home/evhx/Desktop
evhx@evhx-VirtualBox:~/Desktop$
```

## **Conclusion**

Installing operating systems on virtual hard drives allows for the possibility of running multiple operating systems together at the same time, and having control over how the hardware being used is being divided, as well as being able to save specific instances of the operating system, overall being quite versatile.

While a live boot from a disc or a USB is similar in the sense where multiple operating systems could be booted, only one operating system could be run at a time. The ability to do a live boot is also only limited to some Linux distributions, such as Kali Linux, Linux Lite, Peppermint OS, Slax, and Puppy Linux to name a few.

A live boot would be useful when wanting to load an operating system directly onto any computer, which is a good wireless hacking method. While a virtual machine is useful for running multiple operating system environments that will not directly run on the host computer.