GETTING STARTED WITH GNU/LINUX

1 Before we start…

➔ Free and Open Source Software (FOSS): Software distributed for free, providing its source code to the public

➔ Proprietary or Commercial: Paid or freeware software that do not provide its source code

2 What is GNU/Linux

WHAT IS GNU/LINUX

GNU/Linux is an operating system (OS)

Much like:
- Mac OS X
- Microsoft Windows
- BSD
- Solaris

Linux is the Kernel of the GNU/Linux operating system.

➔ Linus Torvalds created his own OS called Linux in the '90s inspired by UNIX
➔ UNIX: Proprietary OS developed by AT&T in the '70s

Linus Torvalds
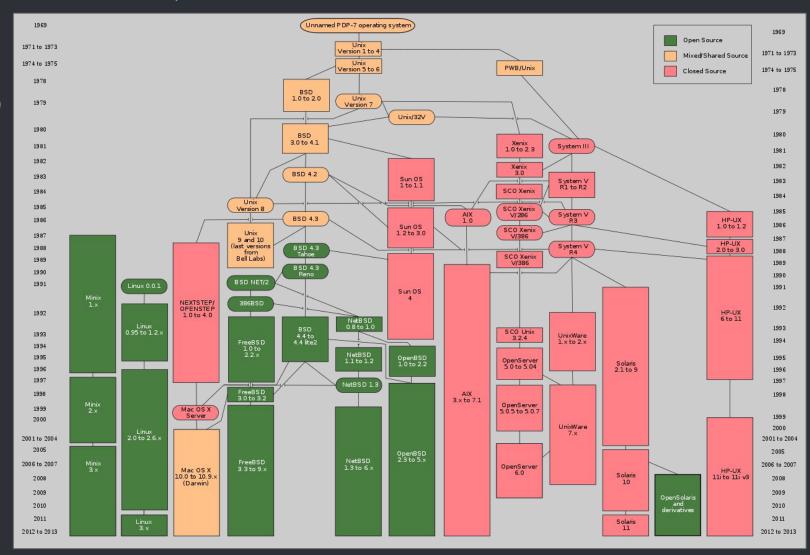
The GNU Project is a free software, mass collaboration project.

The GNU Project develops and releases FOSS. You may have heard of:

- GCC
- GNU GPL
- Emacs

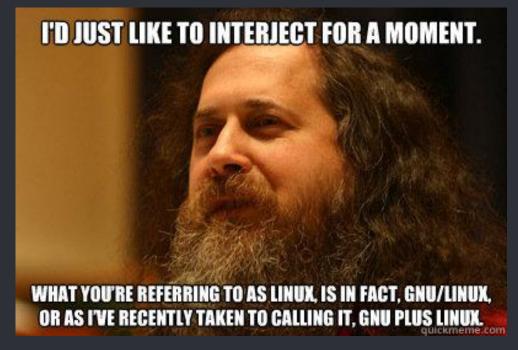The GNU Project tagged with the Linux Kernel to develop the "most open" OS

WHAT IS GNU/LINUX

GNU/Linux is the official name (according to the GNU Project)

We usually just call it Linux...

3 Why Linux..?

Linux is 100% open source. This means:

- Everyone can help out with code, translations etc
- Bugs get fixed quicker = Better security
- No tracking
- Fully customisable
- Runs on virtually every machine
- Find out more [here](#)

... because it's open source.

Awesome for us but even better for:
- Universities
- Governments
- Companies

Linux is a great tool for developers.
- All major languages and frameworks are very simple to setup, maintain and use on Linux (contrary to Windows...)

4 Ok how do I Linux?

You can not just install Linux. GNU/Linux is the base system that other communities develop their OS on.

These communities create several similar but very different Linux variations called distributions.

A linux distribution is an OS made from a collection of software build of top of the linux kernel and, **often**, combined with a Desktop Environment.

Each distro is created for a specific purpose in mind, so every distro is best at something :)

Ubuntu
is the most popular Linux distro. It's supported by many contributors so it's very stable and is user-friendly

Fedora
is a distro for Linux enthusiasts and aims to be on the bleeding edge of the new technologies although it can be a bit tricky to use for beginners

Kali
is a distro that focuses on penetration testing, digital forensics and ethical hacking.

Each distro is created for a specific purpose in mind, so every distro is best at something :)

OpenSUSE
is the distro that aims to keep every part of it completely open source and contributes the most to the community

CentOS
is for people who need an enterprise class operating system stability without the cost of certification and support

Debian
is the reason why Ubuntu and a ton of other distributions exist. It's the go-to distro for most users

openSUSE™

CentOS

debian

TL;DR: A desktop environment is the GUI that the OS uses.

Most commons DE:
- Unity
- Gnome 3
- KDE
- Cinnamon
- LXDE
- MATE
- XFCE

Most DEs are independent from the OS, so you can use whichever DE you want in whichever OS!

GNOME 3

KDE

CINNAMON

Desktop environments are cool and fancy but the power of Linux is the BASH, it's text-based interface.

>./lets-start.sh

5 Let's Bash

Bash is love, Bash is life.

Bash is the command line interface for Linux. Using Bash, we can do anything that we do with GUI and many, many more.

It may look ugly (to some..) but it allows us to do complex operations very quickly

Who needs a mouse when you have Bash?

cd:

Changes the current directory
E.g
> cd ~/Desktop

ls:

Lists all the files and folders in the
current directory

mkdir:

Creates a folder with the given name
E.g
> mkdir myfolder

touch:
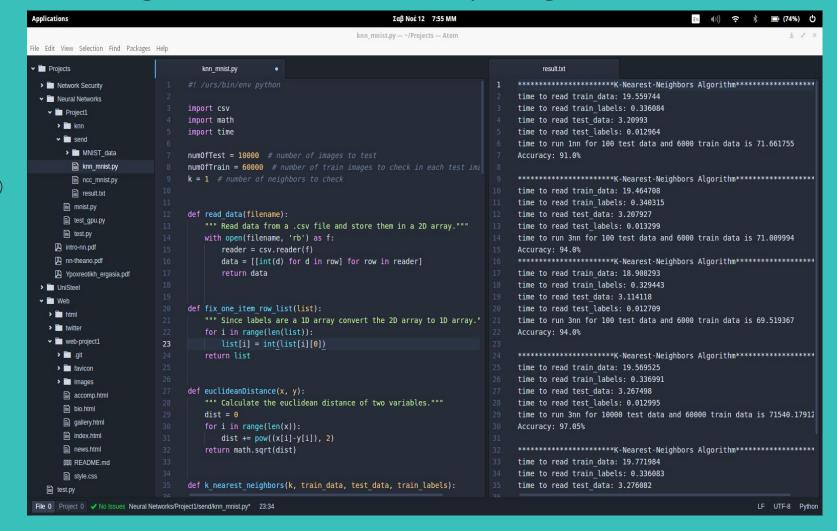
Creates a file with the given name

What if you want to edit a file? You can use one of the command line editors called nano.
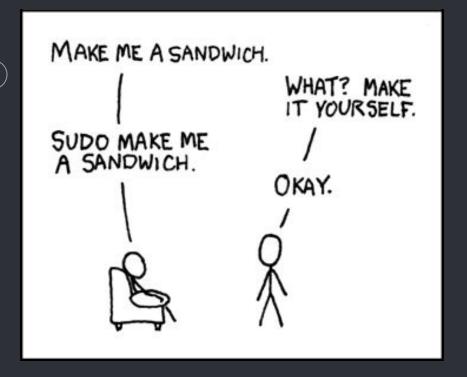
E.g
> nano testfile

TEXT EDITORS

... or you can use one of the plenty text-editors

Installing software in Ubuntu (and most Debian-based distros) is a piece of cake compared to other distros.

Of course, in order to install a new program, we need to be "administrators".
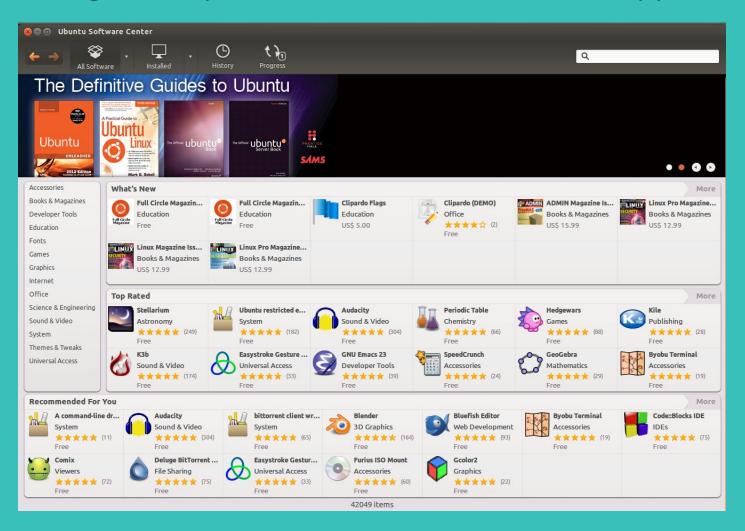
To execute a command as an admin(root), just type sudo before the command.

E.g
> sudo rm adminfile

Ubuntu maintains a list of the most important software. You can download and install them using just one command

> apt-get install *<package name>*
E.g
> apt-get install vlc

LET'S INSTALL A PROGRAM

... or you can just use the Software Center app

Let's run the program we've just installed. To run a program simply type its name.

> vlc

6 Some less technical information

WHAT? No anti-virus?

- Viruses rarely target Linux systems
- Linux, by design, gives less permissions to applications
- Security issues are patched quickly
- Usually Linux users are more sophisticated...

Most distros come with a *Live* version to try before installing

The installation of a Linux distro is usually a matter of minutes.

It can live in the same hard drive without interfering with other OSes

+ Updating is a piece of cake

Most Linux distribution require
- Very little storage space
- Less RAM than Windows/OS X

+ booting is much faster

There are even specific distros for very old and low-end systems

Linux is usually not for:

- Designers, sound engineers, filmmakers etc
- Gamers
- Systems with very specific hardware

But you can always dual-boot…

7 Closing Notes

The thing with Linux is that the developers themselves are actually customers too: that has always been an important part of Linux.
-   Linus Torvalds

Thank you..!

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