Why Linux?
NWFLUG Community Education

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Hypothesis

Young people interested in careers involved with science, mathematics, engineering, art, music, or almost any technical field should be introduced to **Linux**. (And if not **Linux**, they should be introduced to **FOSS** on Windows or Mac.)

What is Linux?

More formally known as **GNU/Linux**, it's a free operating system (OS) invented by Linus Torvald to provide a UNIX-like system with all the standard command-line and graphical tools that accompany such a system.

Linux, rather than Windows or Mac, provides much of the behind-the-scenes *cloud* computing in data centers and high-performance computing facilities. It also powers the Android, the Chromebook, and the *Internet of Things* (IoT).

What is Linux?

For a much more detailed look see this link:

<**https://www.lifewire.com/basic-guide-linux-operating-system-2202786**>

Why Linux?

The command-line environment (equivalent to the *command* or *run* window on Windows) provides the user with almost complete freedom to automate tasks typical in research or other work or study in technical fields.

Linux also gives the user much greater control over what happens and what does not happen on his or her computer.

As a bonus, **Linux** comes packaged with **thousands** of free applications in such categories as: games, office suites, publishing and graphics, CAD, FEA, education, science, mathematics, music, art, and many others.

Linux vs. Windows: Windows

Windows:

- Is everywhere
- Is primarily a GUI operation
- Is expensive
- **Hides internals**
- **Has a non-case-sensitive file system**
- Updates when Microsoft says it should, often restarting your computer without your permission.

Linux vs. Windows: Linux

Linux:

- Is pretty much the opposite of Windows in most respects

- Is everywhere, although it is usually working behind the scenes

- Has both GUI and intrinsic command line capabilities

- **Is FREE**

- Shows as much or as little of the internals as you want to see

- Has a case-sensitive file system

- **Performs upgrades only if you want it to**

- Is unparalleled for the scientist or engineers: a powerful, "programmable calculator"

Linux vs. Windows: Other views

Other opinions:

<**https://www.lifewire.com/windows-vs-linux-mint-2200609**>

<**http://whylinuxisbetter.net/en/**>

<**https://www.popsci.com/switch-to-linux-operating-system#page-4w**>

<**https://www.makeuseof.com/tag/linux-beginners-guide/**>
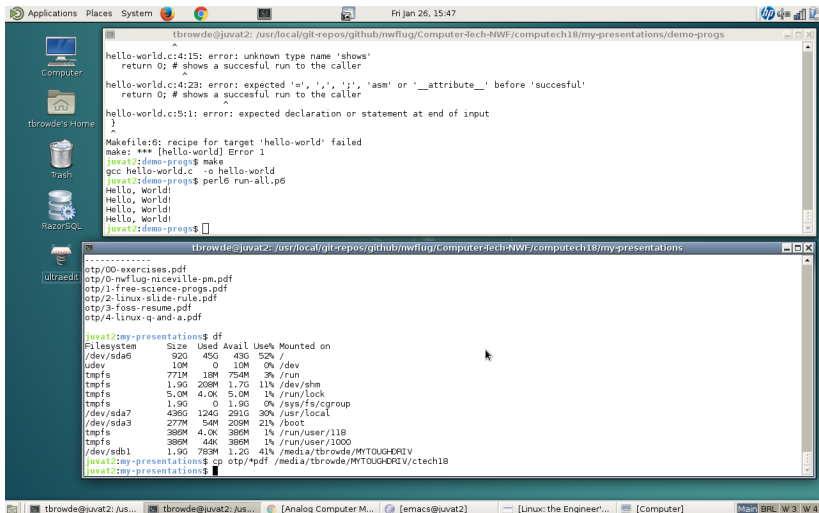
Linux: Introduction

Desktop empty while working at the command line...

Desktop cluttered while working with windowed programs…
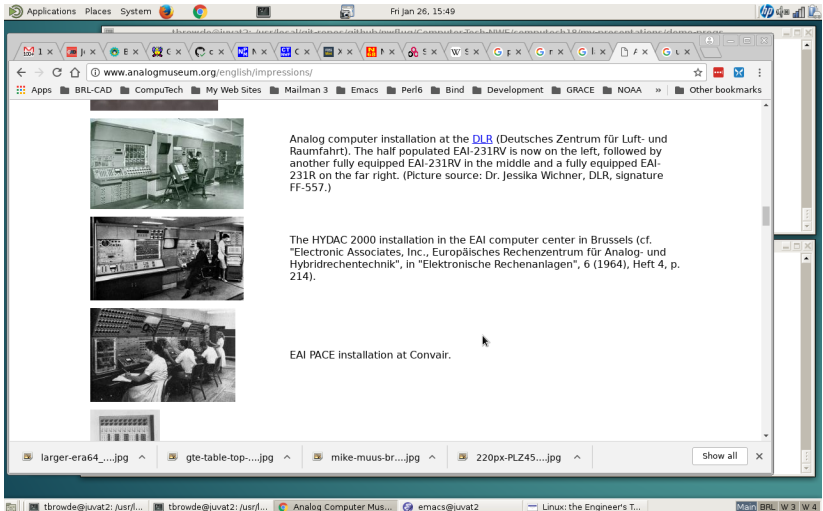
Linux: How to get it

On Windows or Mac:

- Use a live, bootable USB [recommended for intro]

- Use **Putty** on Windows or a terminal app on an iPad to connect to a cloud server (as cheap as $2.50 per month)

- Install the Windows 10 Ubuntu subsystem

- Install Linux as a VM guest on Windows 10 Pro Hyper-V

Linux: How to get it (cont.)

- Install VirtualBox or VMware to run a Linux Virtual Machine

- Use a live, bootable CD/DVD [only as a last resort]

On a Chromebook:

- Use the Linux App

Best choice:

- Use a single OS, native installation

- Use a Chromebook

Linux comes in many "flavors"

A Linux system comes packaged in many **distributions** (*distros*) such as Debian, Ubuntu, Linux Mint, and others.

See <**https://distrowatch.com**> for lots of information about popularity, download statistics, and other stats on hundreds of **distros**.

My Linux friends think *Linux Mint* is one of the best *distros* for beginners. I prefer *Debian* and have used it for well over ten years.

(Note that Google moved to **Debian** from Ubuntu within the last few years.)

Linux help?

There is practically an infinite amount of Linux resources to be found on the Internet.

I am usually available to help small groups at the library, local church, or other public location.

My old group, the Northwest Florida Linux User Group (NWFLUG), has a website still running with some pertinent information, including a link to this presentation.

Check out the website at:

<**https://nwflug.org**>.