

## Teaching Linux: Unit 1a

- What is Linux?
  - Operating system working behind the scenes
  - Open Source
    - This means anybody can contribute to Linux
    - This means Linux is free
  - Especially useful for developers, programmers etc.
  - Driven by command line
    - Speaking directly to the computer
  - Sleek by nature, not bogged down by windows garbage (Internet Explorer etc.)
- Where is Linux?
  - **Soda Machines**
  - **NASA:** Used for storing data sent down from satellites and telescopes, to crunching and serving up that data to research institutions
  - **The Large Hadron Collider:** The \$10 machine that smashes protons together uses Linux to process petabytes of data
  - **The Internet:** About 1 to 2 thirds of websites on the internet are backed by Linux
  - **Android**
  - **Instagram**
  - **The New York Stock Exchange:** Linux is used to make very big calculations, track transactions, and analyse stocks at high speed
- Different “flavors” of Linux
  - Unlike windows, Linux can come in different modified forms, this is because it is open source and can be specialized by people or organizations
  - Different flavors have been modified to fit certain needs
    - Desktops
    - Servers
    - Lightweight
    - Scientific
    - Customizable
  - There is no one perfect Linux that meets all needs, that would be impossible
- How does it work?
  - For this one read of the slide
- How do you talk to it?
  - When using Linux, we talk directly to the computer using commands.
    - Commands are simply orders made to the computer given in text form
    - Commands are issued at the command line
  - Shells are how commands are made
    - They are like Waiters, giving your order to the kernel, and then bringing you the kernel’s response

- Shells are picky and have a specific case sensitive format for the commands you give them
- The most popular Linux shell is called bash

## Unit 1b

- Terminal
  - Have the kids open module 1
  - Break down of hostname, \$ vs #, (not too much depth though)
  - Have them log as root, brief explanation of root
    - Point out the difference in the shell “#” and path
- Directory hierarchy
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- Locations of important files/directories ( /etc /home /bin etc..)
- Files and directories
  - Making/removing/editing files and directories
  - Hidden files/directories
  - What is ~/pwd
- Commands taught:
  - cd
  - ls
  - mkdir
  - rmdir
  - touch
  - nano
  - rmdir
  - rm ( rm \* is included in the drafted module)
  
- Things left out: sudo, permissions, users, location of system files, software