LINUX FUNDAMENTALS

UNIX HISTORY

The Unix operating system was created in 1969 at AT&T Bell Lab.

It's the foundation for many operating systems including Linux.

WHAT IS LINUX?

Linux is an open-source (no license required) operating system built in 1991 from scratch but inspired by the Unix operating system.

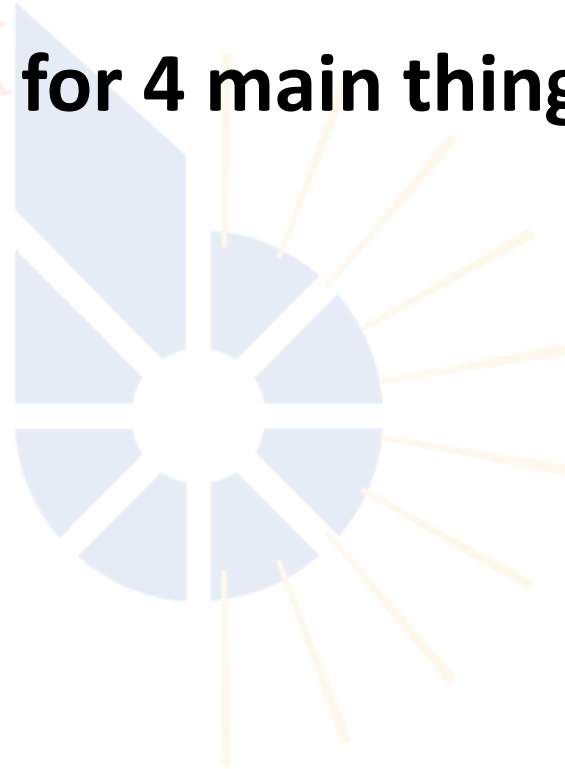LINUS TORVALDS

Linux is known for 4 main things:

1 → Stability

2 → Security

3 → Flexibility

4 → Reliability

LINUX HISTORY
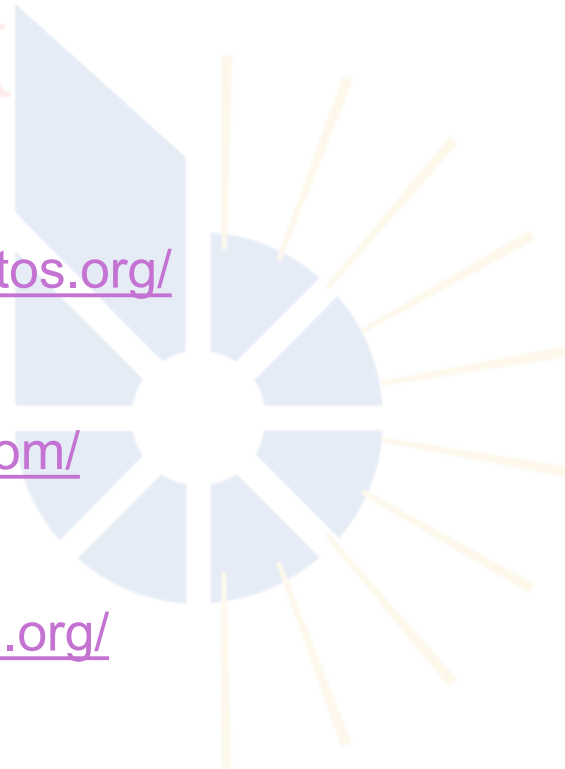
- 2/3 of web servers run Linux/Unix OS.

- All Apple devices are based on Unix

- Android is based on Linux

- Two Major Linux Families: Debian and Red Hat

- Kali is part of the Debian Family

LINUX DISTRIBUTIONS

1. **Centos** → https://www.centos.org/

2. **Ubuntu** → https://ubuntu.com/

3. **Fedora** → https://getfedora.org/

4. **Debian** → https://www.debian.org/

EXAMPLES OF WHERE LINUX IS COMMONLY USED:

- Servers and data centers.

- Supercomputers.

- Embedded systems (IoT devices).

- Desktops and laptops (Ubuntu, Linux Mint, etc.)

INTERACTING WITH LINUX OPERATING SYSTEM

GUI

- Ubuntu

- Centos

CLI

- Solaris

- Metasploitable

LINUX COMMAND LINE

https://killercoda.com/

LINUX

Command Map
→ **https://xmind.app/m/WwtB/**

Sample Commands
→ **https://fossbytes.com/basic-linux-commands-beginners/**

LINUX COMMANDS

- ✅ **hostname**: Check computer name
- ✅ **whatis** shows the description of a command
- ✅ **whoami**: check who is logged in
- ✅ **touch or vi**: create a file
- ✅ **mv**: move a file
- ✅ **rm**: delete a file
- ✅ **mkdir**: make a directory
- ✅ **man**: view manual page of a command
- ✅ **cat**: display the content of a file
- ✅ **clear**: clear your screen
- ✅ **reboot**: restart your system

MORE LINUX COMMANDS

☑ **ifconfig**: Display and manipulate route and network interfaces.

☑ **ls**: list directories.

☑ **traceroute**: Network troubleshooting utility.

☑ **cd**: change directory.

☑ **ping**: To check connectivity between two nodes.

☑ **netstat** Display connection information.

☑ **grep**: find text in a file

☑ **pwd**: present working directory

☑ **nslookup**: Find DNS related query.

☑ **ps –elf** : check current running processes

☑ **history**: Display all commands previously run

CLASS EXERCISE

Open this links and run the following commands
→ https://killercoda.com/

1 - **hostname**

2 - **whoami**

3 - **pwd**

4 - **date**

5 - **uname –a**

6 - **ls**

7 - **mkdir beriteck**

8 - **cd beriteck**

9 - **touch file.txt**

10 - **echo "cybersecurity at Beriteck" > file.txt**

11 - **cat file.txt**

12 - **rm file.txt**

13 - **cd ..**

14 - **rmdir beriteck**

15 - **clear**

16 - **history**

ASSIGNMENT

Video → https://www.youtube.com/watch?v=1a0iMZjiL5s

Watch the above video and write 5 commands that were not covered in class and what the command does.

Send your responses to jtata@beriteck.com

DOWNLOAD ASSIGNMENT
Download the following programs on your computer

- **Vmware Workstation pro 16** → https://customerconnect.vmware.com/downloads/get-download?downloadGroup=WKST-1622-WIN&download=true&fileId=86986763bf7e37e43958ce829f8d28bb&uuId=5c66d24f-fd39-4b73-ac0e-5e863df5425b

- **Kali Linux** → https://cdimage.kali.org/kali-2023.4/kali-linux-2023.4-vmware-amd64.7z

- **7zip** → https://www.7-zip.org/a/7z2301-x64.exe

- **Metasploitable** → https://sourceforge.net/projects/metasploitable/files/latest/download