



HACKSUMMER 21

A large, semi-transparent blue silhouette of Tux, the Linux mascot penguin, is centered in the background. The background is a dark blue space with white stars. At the bottom, a perspective grid of white lines recedes into the distance, creating a sense of depth.

Session 0

Welcome to Linux

Who am I?

- Career Technology Educator
- Switched to Cybersecurity
- Started using Linux in 2010
- Learned everything possible
- Deployed Linux on laptops, servers, and the cloud
- Software Developer
- Cybersecurity Analyst/Pentester
 - Linux is my secret weapon





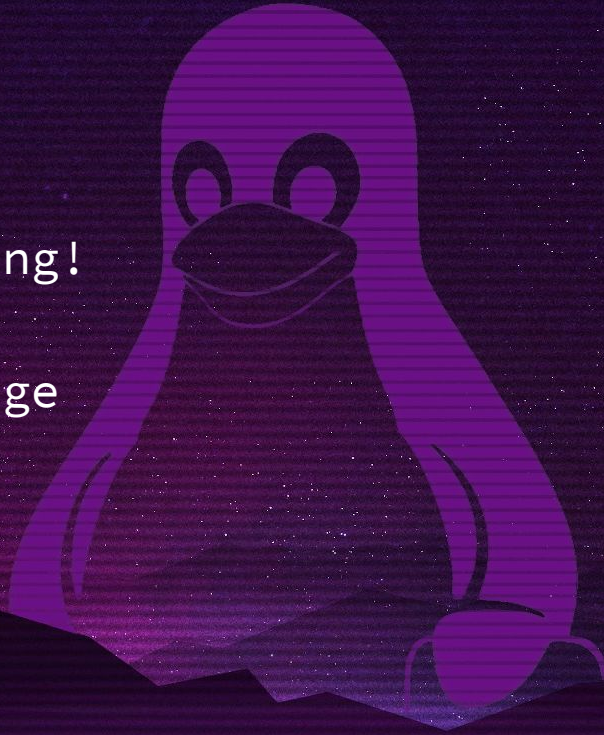
Who Are You?



You Belong

Prerequisites

- Hunger for learning!
- ~8 GB of RAM
- ~20 GB free storage
- VirtualBox
- Ubuntu Server ISO





Background

What is Linux, Anyway?

- UNIX-like operating system
- Created by Finnish student Linus Torvalds in 1991
- Open source, meaning it is free to use, modify, and redistribute (with some provisions)



UNIX

- Operating system family first developed by Bell Labs in **1969!**
- Spawned several similar OSes, including Linux, BSD, and even macOS!
- Right: Dennis Ritchie and Ken Thompson, 1972



Linux Today

- Plurality of web servers
- Most cloud computing instances
- 100% of all supercomputers
- Heavily used in robotics/IoT devices
- Now, on Mars!
- The most important software project in the world?

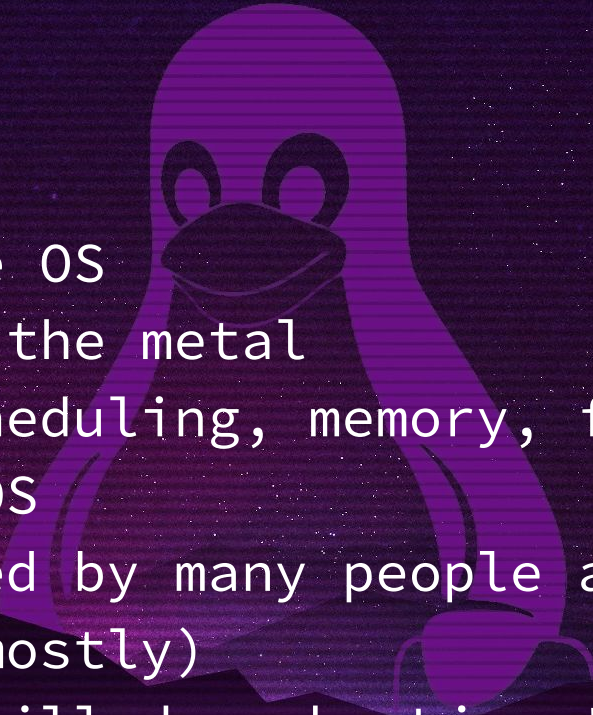




Key Terms

The “Kernel”

- The core of the OS
- Interacts with the metal
- Manages CPU scheduling, memory, files, etc.
- Not the whole OS
- Code contributed by many people and organizations
- Written in C (mostly)
- Final review still done by Linus!



GNU Tools

- GNU's Not Unix
 - Seriously, that's what it stands for
- Set of user tools making up a large part of the modern UNIX command line environment



Distributions

- Packagings of the Linux Kernel with a desktop environment and other supporting software
- Additional software/updates hosted by repositories maintained by the distribution



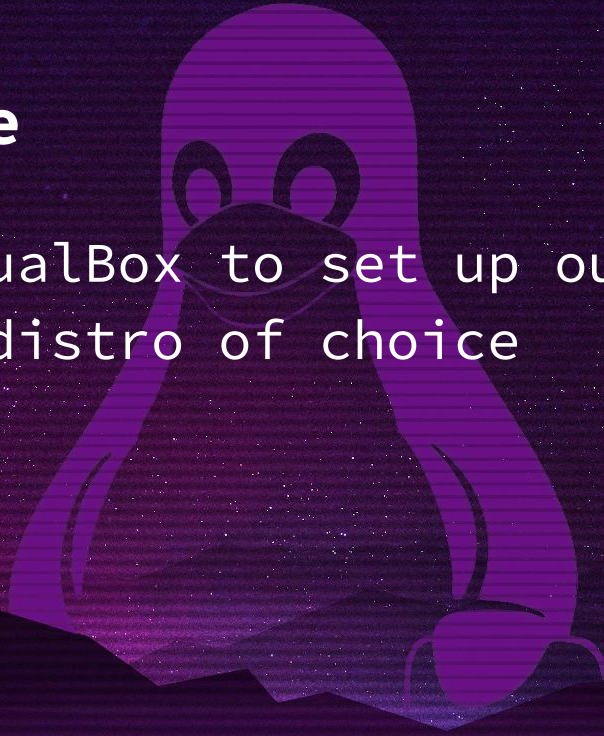
Some Distributions

- Debian
- Ubuntu
- Red Hat
- Open SUSE
- Arch
- Linux Mint
- Manjaro



Virtual Machine

- We'll use VirtualBox to set up our Lab VM
- Ubuntu is our distro of choice





Questions?

The background of the slide features a dark purple space-themed scene with a starry sky and a glowing horizon. In the center, the Ubuntu Tux penguin logo is depicted in a lighter purple hue, appearing to sit on a dark, jagged silhouette of land. The penguin is facing forward with its characteristic orange beak and eyes.

Installing Ubuntu



Next Time: The Command Line