

I USE ARCH BTW!

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ABOUT THE TASK

- Installation of Arch Linux - On a virtual machine or bare metal
- Learn about Linux
- Make presentation on Linux



HISTORY OF LINUX

- in 1969 [Ken Thompson](#) and [Dennis Ritchie](#) of AT&T Bell Laboratories created **UNIX** a proprietary operating system and later re-wrote it in C to make it portable.
- **Richard Stallman** initiated the GNU project in 1983, aiming to develop a Unix-like operating system that was free and open-source. he authored the [GNU General Public License \(GPL\)](#). By the early 1990s, a substantial amount of software was available, nearing the completion of a comprehensive operating system. But the development of the GNU kernel, known as Hurd, faced challenges in attracting developer participation, resulting in GNU remaining unfinished.
- In 1991, [Linus Torvalds](#), a Finnish computer science student, started working on a new operating system kernel as a hobby project for intel i386. He aimed to develop a Unix-like system that could run on personal computers. He named it "**Linux**" after himself and the Unix operating system.
- Torvalds made Linux open-source and invited other developers to contribute to its development. Over time, many developers began contributing to the project, aligning with the GNU philosophy. [Linux started incorporating GNU software](#), such as the GNU C Compiler (GCC), into its distribution, creating a powerful combination of GNU and Linux. In the middle of December 1992, he published version 0.99 using the GNU GPL. Linux and GNU developers worked to integrate GNU components with Linux to make a fully functional and free operating system.
- in 1994 Linux 1.0 was released and throughout the years many different important Linux distributions like [Redhat](#), [debian](#), [Ubuntu](#), [centOS](#) and [Arch](#) were released.

SCOPE OF CUSTOMIZABILITY

Package Managers

Linux distributions like Arch Linux offer powerful package managers (e.g., Pacman) that allow users to easily install, update, and remove software packages. This provides the flexibility to choose from a vast repository of software packages and customize the system according to specific needs.

Desktop Environment and Window Managers

Linux offers a wide range of desktop environments (e.g., GNOME, KDE, Xfce) and window managers (e.g., i3, Openbox) to suit different user preferences and workflows.

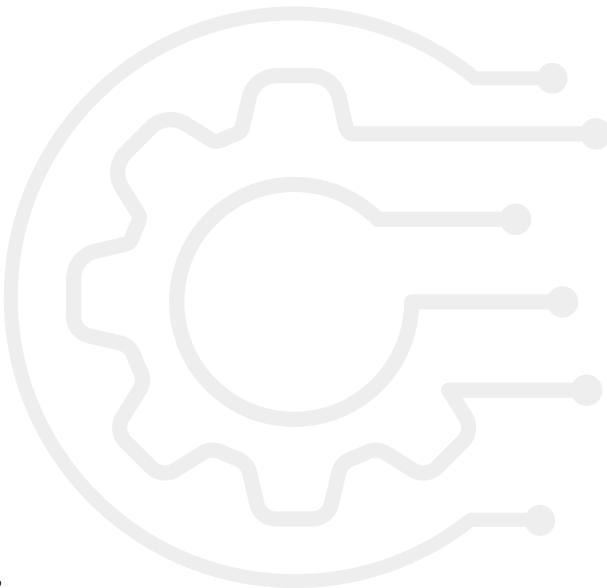
Users can customize the look, feel, and behavior of their desktop environment, including themes, icons, desktop effects, and keyboard shortcuts.

Kernel Customization

Arch Linux allows you to install an alternative Linux kernel of your choice. Additionally, users can selectively load and unload kernel modules to add or remove functionality as needed.

Arch Linux Philosophy

Arch Linux follows a "do-it-yourself" approach, providing users with a minimal base system and allowing them to build their desired system from the ground up. This level of control and minimalism fosters a high degree of customizability.



HOW DID THE INSTALLATION REALLY GO...

First Try Institute WIFI ... gave up on me

Before installing it on my virtual box, I attempted to verify if the internet was functional within the virtual machine. I decided to do this by pinging archlinux.org but consistently encountered 100% packet loss. Despite my efforts to reconfigure the VirtualBox network settings, the issue persisted. It was only later that I realized that manual pinging of websites through CMD was not permitted while connected to the institute's ethernet. This revelation indicated that the internet was indeed functioning, but my approach to checking it was flawed.

Second Try Bane of my existence - STORAGE

During this installation, I had only allotted 11 GBs for the arch Linux virtual machine, which near the end of the installation I realised was not enough. After configuring the internet, partitioning drives, and successfully installing the Arch Linux operating system. I realised the remaining space was not enough to install a Desktop environment. This essentially left me with a text-based operating system which unfortunately allowed very little scope for customization.

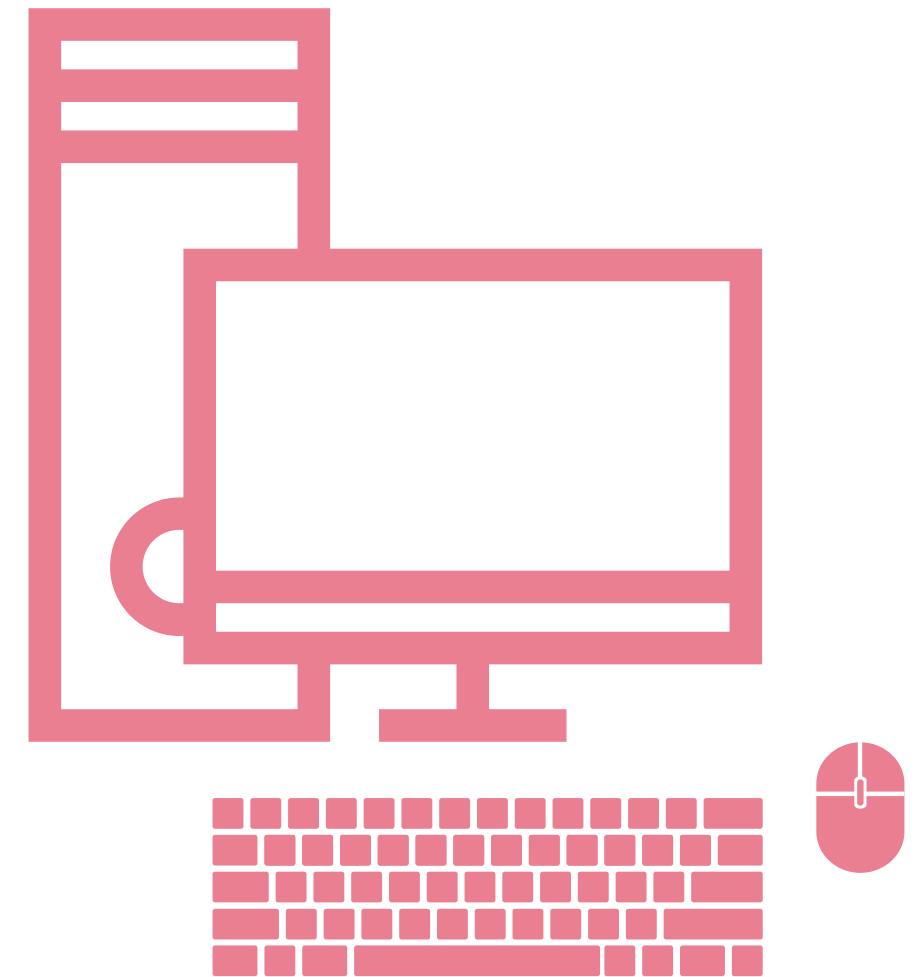
How I reached the 90's

THE MOMENT OF TRUTH

Final Try

Finally, on the last try I allotted 40GBs to my linux virtual machine which proved to be way more than necessary, but I didn't want to take any chances. This time the installation process went smoothly.

- Partitioned the disk into FAT32 EFI - gave it 500MBs
- Created a swap file - gave it 2 GBs
- Gave 30GBs to root and the rest to home - both ext4
- Mounted the volumes
- Installing and configuring essential packages
 - base package
 - drivers
 - text editor
 - network manager
- Configure the system and install bootloader
- Installed Xfce desktop environment



FUTURE CUSTOMIZATION PLANS

Window Manager Configuration

Explore tiling window managers like i3, Awesome, or Xmonad
Modify the color scheme to match my preferred aesthetic.
Customize keybindings to launch applications, switch between workspaces, resize windows, or execute specific commands.

Audio and Visual Effects

Adding visual effects to my music playback like an audio visualizer

Customizing the boot splash screen

Arch allows you to customize the boot splash screen to add personal visuals during the startup of your machine

Exploring AUR

The Arch User Repository(AUR) contains various helpful packages that can be helpful in customizing my machine. It contains popular software like spotify and firefox to desktop customization packages like polybar and nitrogen

Playing with dotfiles

Most of the fine-tuned customization requires creating or changing config files or dotfiles of that program. Learning how these work will give me a lot of customizing power over my desktop

THANK YOU

