Pengenalan kepada Linux

Apa itu Unix?

- 1969, AT&T Bell Labs

- Dennis Ritchie, Ken Thompson

- Unics jadi Unix, Brian Kernighan

Unix Clone?

- 1975, Universiti California

- Ken Thomposon bawa Unix v6

- 1977, Berkeley Software Distribution lahir

- Saman

GNU is Not Unix

- 1983, GNU Project, Richard Stallman
- Rewrite Unix from scratch
- Tools siap, kernel takde

Kernel

- Penghubung antara tool/program/aplikasi dengan perkakasan

Sistem Operasi Freax

- Linus Torvalds, Helsinki, Finland
- Commodore Vic 20, BASIC, umur 10 tahun
- Susah dapat software kat Helsinki, so Linus buat software sendiri, games etc.
- **1991**, Universiti Helsiniki, MS-DOS, **Minix (Minimal UNIX)**, limited
- Linus start buat OS sendiri

```
linux-0.01.tar.Z        - sources to the kernel
bash.Z                     - compressed bash binary if you want to test it
update.Z                   - compressed update binary
RELNOTES-0.01           - this file


... snip snip ...


                    1. Copyrights etc


This kernel is (C) 1991 Linus Torvalds, but all or part of it may be
redistributed provided you do the following:

        - Full source must be available (and free), if not with the
          distribution then at least on asking for it.

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          only parts of it you may have to add copyrights, as there aren't
          (C)'s in all files.) Small partial excerpts may be copied
          without bothering with copyrights.

        - You may not distibute this for a fee, not even "handling"
          costs.

Mail me at "torvalds@kruuna.helsinki.fi" if you have any questions.
```

Email Linus kepada MINIX Mailing List

From: torvalds@klaava.Helsinki.FI (Linus Benedict Torvalds)
Newsgroups: comp.os.minix
Subject: What would you like to see most in minix?
Summary: small poll for my new operating system
Message-ID: <1991Aug25.205708.9541@klaava.Helsinki.FI>
Date: 25 Aug 91 20:57:08 GMT
Organization: University of Helsinki

Hello everybody out there using minix -

I'm doing a (free) operating system (just a hobby, won't be big and
professional like gnu) for 386(486) AT clones. This has been brewing
since april, and is starting to get ready. I'd like any feedback on
things people like/dislike in minix, as my OS resembles it somewhat
(same physical layout of the file-system (due to practical reasons)
among other things).

I've currently ported bash(1.08) and gcc(1.40), and things seem to work.
This implies that I'll get something practical within a few months, and
I'd like to know what features most people would want. Any suggestions
are welcome, but I won't promise I'll implement them :-)

                Linus (torvalds@kruuna.helsinki.fi)

PS. Yes - it's free of any minix code, and it has a multi-threaded fs.
It is NOT protable (uses 386 task switching etc), and it probably never
will support anything other than AT-harddisks, as that's all I have :-(.

- **September 1991**, lahirlah `Linux v0.0.1`. Belum open source.
- **1992**, Linus release `Linux v0.0.2` guna lesen GPL dan jadi open source
- Nama asal `FreaX` (Free/Freak UNIX), tapi **Ari Lenke**, tukar kepada Linux, mengambil nama working directory yang Linus gunakan di `ftp.funet.fi` iaitu `/pub/os/linux`.

Kalau berminat nak tengok source code Linux, boleh tengok kat
https://github.com/torvalds/linux

FAKTA !

Linux ni untuk PC dan laptop sahaja.

Setuju?

Wrong! Salah! Nehi!

- Linux kernel digunakan secara meluas di pelbagai medium.
- PC, laptop
- Smartphone
- Smart appliance
  - Fridge, Smart TV, PS4 (dan PS5 juga mungkin)
- Banyak lagi.. antaranya boleh tengok kat sini:
  - https://www.unixmen.com/15-weirdsurprising-devices-amp-systems-that-run-on-linux/

Linux Distro

Distro? Kelab malam ke?

Apa itu Linux distro?

- Linux distro (atau distribution) adalah sebuah gabungan komponen bagi memudahkan kita untuk menggunakan Linux.

- Kernel + tools & apps + package manager = distro

- Dan kebiasaannya, Linux distro turut datang dengan antaramuka pengguna berasaskan grafik (GUI). Contohnya Ubuntu.

- Tapi ada juga yang tiada GUI seperti Arch Linux.

Distro Popular

- RedHat Enterprise Linux (RHEL)
  - Fedora (ditaja oleh RedHat)
  - CentOS (free alternative kepada RHEL, dibangunkan oleh komuniti)
  - RockyLinux (dikatakan pengganti kepada CentOS)

- Debian
  - Ubuntu (walaupun based dari Debian, tapi ia sangat popular!)
  - Linux Mint (based on Ubuntu & Debian)
  - Kali Linux (fokus pentesting)
  - PopOS (fokus gaming)

- Arch Linux
  - Manjaro (my favorite)
  - Artix (tanpa SystemD)
  - ArcoLinux
  - EndeavourOS

Boleh tengok kat sini untuk senarai distro yang ada:

https://upload.wikimedia.org/wikipedia/commons/b/b5/Linux_Distribution_Timeline_21_10_2021.svg

Banyak gila!

Terminal vs Shell

- Terminal atau terminal emulator, medium yang kita guna untuk taip command
- Shell pula adalah intepreter kepada command tadi