دوره‌ی پایتون- جنگو

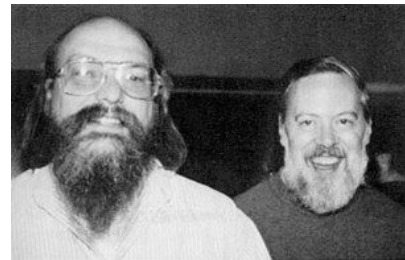## بوت‌کمپ ۵۱

Linux Essentials

مدرس: میمنت جلیلیان

مربیان:ندا سلطانی، سارا قانعی،پریسا اعتمادی فر، زهرا متین فر

Linux - history

1969 - AT&T: Unix

     Ken Thompson and Dennis Ritchie
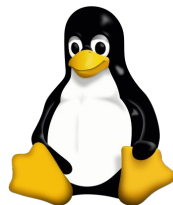
1983 - GNU Project

     Richard Stallman

...Trying to be like Unix

     MINIX,BSD,...

1991 - Linux

     Linus Torvalds

Linux- Features

- Open-source
- Reliable,stable
- Secure, very secure
- Various Distros to choose
- large community support
- Performance
- High flexibility
- Not for everyone
- not powerful Apps compared with Microsoft/Apple for:
    - Office solutions
    - Games
    - Design
- you name some...

Our time is now!

Desktop i.e. Ubuntu

Server i.e. Redhat

Embedded i.e. Android

Linux Distributions

- Based on Linux Kernel
- Different philosophies
  - open source vs free
- different targets
  - Desktop
  - Server
  - Embedded

open source and free software licensing

Understanding open-source and

free software licensing

	Free software	Open-source software	Freeware	Public-domain software
Definition	"FREE" is a matter of liberty, not price	"OPEN" doesn't just mean access to the source code	"FREE" refers to price, while freedom of the use is restricted by creator	"PUBLIC DOMAIN" belongs to the public as a whole
Ground philosophy	Social movement	Development methodology	Marketing goals	Copyright disclamation
Ground rules	Four Freedoms https://www.gnu.org/ philosophy/free-sw.html	Open Software initiative https://opensource.org/osd		Creative Common Organization https://creativecommons.org
Free of charge	Not necessary	Not necessary	✓YES	✓YES
Covered by copyright law	✓YES	✓YES	✓YES	✗ NO
Examples	Linux, ubuntu	MySQL, Apache	Skype, Adobe Acrobat	SQLite

Linux - Distros timeline

GNU/Linux Distributions Timeline
Version 19.04

© Andreas Lundqvist, Donjan Rodic, Mohammed A. Mustafa
© Konimex, Fabio Loli
https://github.com/FabioLolix/linuxtimeline
Original source: futurist.se/gldt
Published under the GNU Free Documentation License
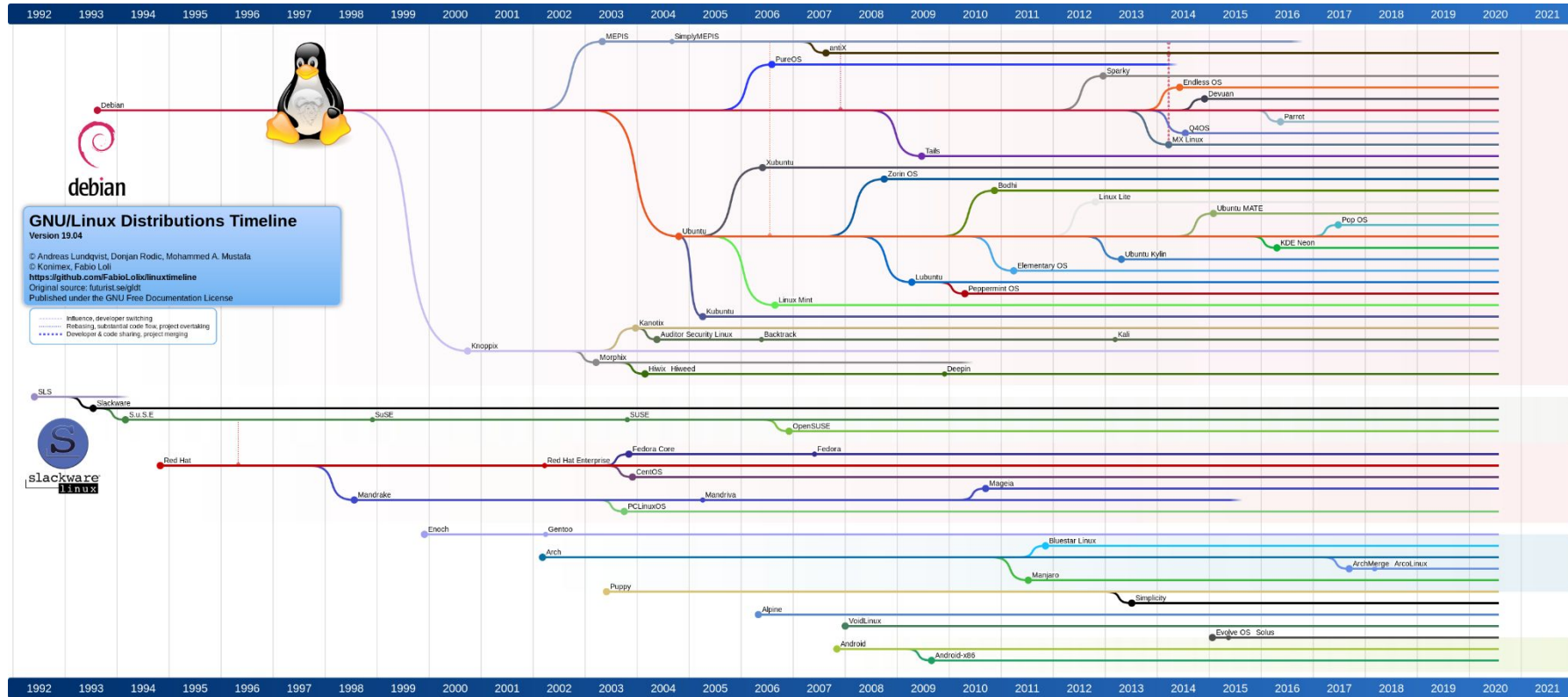
Architecture of Linux

Kernel

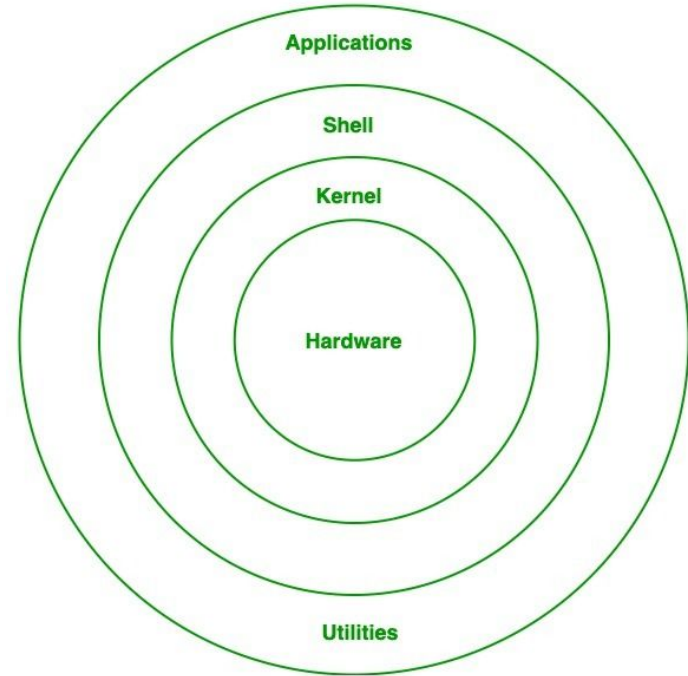Shell

Commands and Utilities

Filesystem

Commands...

pwd

cd

ls

touch

file

cat

less | more

history

whatis

pipe

cp

mv

mkdir

rm

find

help

man

alias

> | >> | < (stdout and stdin)

User Administration

Types of accounts on a Unix system

- Root account
  - This is also called superuser and would have complete and unfettered control of the system. A superuser can run any commands without any restriction. This user should be assumed as a system administrator.
- System accounts
  - System accounts are those needed for the operation of system-specific components for example mail accounts and the sshd accounts. These accounts are usually needed for some specific function on your system, and any modifications to them could adversely affect the system.
- User accounts
  - User accounts provide interactive access to the system for users and groups of users. General users are typically assigned to these accounts and usually have limited access to critical system files and directories.

User Administration

- Unix supports a concept of Group Account which logically groups a number of accounts.
- Every account would be a part of another group account.
- A Unix group plays important role in handling file permissions and process management.

User Administration

There are four main user administration files

- /etc/passwd − Keeps the user account and password information. This file holds the majority of information about accounts on the Unix system. /etc/shadow − Holds the encrypted password of the corresponding account. Not all the systems support this file.
- /etc/group − This file contains the group information for each account.
- /etc/gshadow − This file contains secure group account information

File Permission

Every file in Unix has the following attributes:

- Owner permissions
  - The owner's permissions determine what actions the owner of the file can perform on the file.
- Group permissions
  - The group's permissions determine what actions a user, who is a member of the group that a file belongs to, can perform on the file.
- Other (world) permissions
  - The permissions for others indicate what action all other users can perform on the file.

File Permission
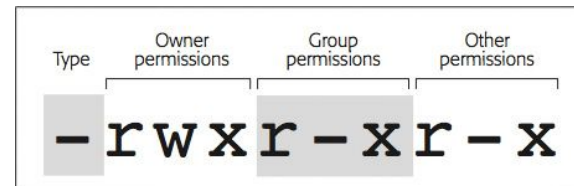
- chmod:
  - change permissions
- chown:
  - change owners

Operation	User Type Permission	ACL Permission
Browse/search TM entries	Can browse TM	Read
Modify TM entries on upload	Can modify TM during upload	Write
Modifying TM entries	Can modify TM	Write
Importing TM entries	Can import entries into TM	Write
Deleting TM entries	Can delete entries from TM	Write
Purging entire TM	Can purge TM	Write
Deleting browse/search results	Can delete result set	Write
Manage public TM attribute filters	Can add or modify public TM attributes filters	Write
Export TM entries	Can export from TM	Read
Lock TM Entries	Can lock TM entries	Write
Unlock TM Entries	Can unlock TM entries	Write

useful sources

[Bash cheat sheet](#)

[Bash scripting cheatsheet](#)

Any other website that Google suggests