21-12-24

Day-4

File systems

→ let's continue with the same instance.

Linux File system:

* Everything in linux is file.
* File is a collection of data. File system is a collection of files
* There are normal files and special files in linux

File types:

* / (root filesystem) : It is the top-level filesystem directory. It must include every file needed to boot the Linux system before another filesystem is mounted. Every other filesystem is mounted on a well-defined and standard mount point because of the root file system directories
* /boot : It includes static kernel and bootloader configulation and executable files needed to start a linux computer.
* /bin : This directory includes user executable files.

* /dev: It includes the device file for all hardware devices connected to the system. These aren't device drivers, instead, they are files that indicate all devices on the system and provide access to those devices

* /etc: It includes local system configuration files for host system.

* /lib: It includes shared library files that are needed to start the system

* /home: The home directory storage is available for user files. All users have a subdirectory inside /home.

* /mnt: It is a temporary mount point for basic filesystems that can be used at the time when the administrator is working or repairing a filesystem.

* /media: A place for mounting external removable media devices like USB thumb drives that might be linked to host.

* /root: It's the home directory for a root user. Keep in mind that it's not the '/' (root) file system.

* /tmp: It is a temporary directory used by the os and several programs for storing temporary files. Also users may temporarily store files here. Remember that files may be removed without prior notice at anytime in this directory.

* /sbin: These are system binary files. They are executables utilized for system administration.

* /usr: They are read-only and shareable files, including executable libraries and binaries, man files and several documentation types.

* /var: Here, variable data files are saved. It can contain things such as MySQL, log files, other database files, email inboxes, web server ~~and~~ data files and much more.

* /proc: The /proc directory is a virtual file system that provides information about running process and system resources.

* /run: The /run directory contains temporary files that are created by system services and daemons.

* /srv: The /srv directory is used to store data for services provided by the system.

* /sys: The /sys directory is a virtual file system that provides information about the system's hardware and devices

* /opt: The /opt directory is used to store additional software packages that are not part of the core system (third party software)

Path:

[root@ip-172-31-32-76 ~]# cd /

[root@ip-172-31-32-76 /]# ls [.: root filesystem]

bin boot dev etc home lib lib64 local media mnt opt
proc root run sbin srv sys tmp usr var

[root@ip-172-31-32-76 /]# cd boot

[root@ip-172-31-32-76 boot]# ls

System.map-6.1.102-111.182.amzn2023.x86_64 efi initramfs-...x86_64.img
Symvers...x86_64.gz config-6.1.102-111.amzn2023.x64_64 grub2 loader
vmlinuz...x86_64

[root@ip-172-31-32-76 boot]# cd ..

[root@ip-172-31-32-76 /]# cd bin

[root@ip-172-31-32-76 bin]# ls

: : :

[root@ip-172-31-32-76 bin]# cd ..

[root@ip-172-31-32-76 /]# cd etc

[root@ip-172-31-32-76 etc]# ls

: : :

[root@ip-172-31-32-76 etc]# cd ..

[root@ip-172-31-32-76 /]# cd lib

[root@ip-172-31-32-76 lib]# ls

: : :

[root@ip-172-31-32-76 lib]# cd ..

[root@ip-172-31-32-76 /]# cd home

[root@ip-172-31-32-76 home]# ls

ec2-user

[root@ip-172-31-32-76 home]# cd ..

[root@ip-172-31-32-76 /]# cd mnt

[root@ip-172-31-32-76 mnt]# ls

[root@ip-172-31-32-76 mnt]# cd ..

[:. currently nothing is mounted that's y it is showing nothing anything]

[root@ip-172-31-32-76 /]# cd sbin
[root@ip-172-31-32-76 sbin]# ls
: : :

[root@ip-172-31-32-76 sbin]# cd ..

[root@ip-172-31-32-76 /]# cd usr

[root@ip-172-31-32-76 usr]# ls

bin games include lib lib64 libexec local sbin
share src tmp

[root@ip-172-31-32-76 usr]# cd ..

[root@ip-172-31-32-76 /]# cd var

[:. Before installing any services there is no dir called "www"]

[root@ip-172-31-32-76 var]# ls

account adm cache db empty ftp games kerberos lib
local lock log mail nis opt preserve run spool tmp yp

[root@ip-172-31-32-76 var]# cd ..

[root@ip-172-31-32-76 /]# cd proc

[root@ip-172-31-32-76 proc]# ls

: : :

[root@ip-172-31-32-76 proc]# cd ..

[root@ip-172-31-32-76 /]# cd srv

[root@ip-172-31-32-76 srv]# ls

[root@ip-172-31-32-76 srv]#

[:. services]

[:. till now we haven't added any services. thats it is showing nothing]

[root@ip-172-31-32-76 srv]# yum install httpd

:
y

complete!

[root@ip-172-31-32-76 srv]# systemctl start httpd

[root@ip-172-31-32-76 srv]# ls

[root@ip-172-31-32-76 srv]# systemctl enable httpd

created symlink /etc/....

[root@ip-172-31-32-76 srv]# ls

[root@ip-172-31-32-76 srv]# cd ..

[root@ip-172-31-32-76 /]# cd var

[root@ip-172-31-32-76 var]# ls

[:. After installing some services, there is a path called "www"]

account adm ... tmp (www) yp

[root@ip-172-31-32-76 var]# cd ..

[root@ip-172-31-32-76 /]# cd sys

[root@ip-172-31-32-76 sys]# ls

block bus class dev devices firmware fs hypervisor kernel module power

[root@ip-172-31-32-76 sys]# cd devices

[root@ip-172-31-32-76 devices]# ls

LNXSYSTM:00 breakpoint kprobe msr pci0000:00 platform pnp0

software system tracepoint uprobe vbd-51712 vif-0 virtual

[root@ip-172-31-32-76 devices]# cd ..

[root@ip-172-31-32-76 /]# cd opt

[root@ip-172-31-32-76 opt]# ls

aws

[:. third party softwares]

[:. all third party softwares are placed here because if the installed third party software has any malware, it won't be transferred to other path, because this "opt" is specially designed for that is y linux is a secure os].