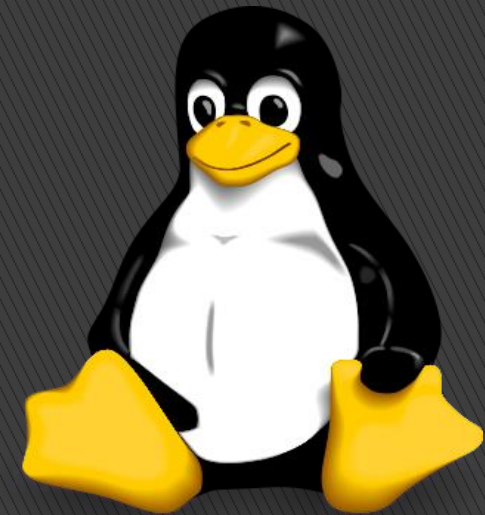


Linux File System Hierarchy

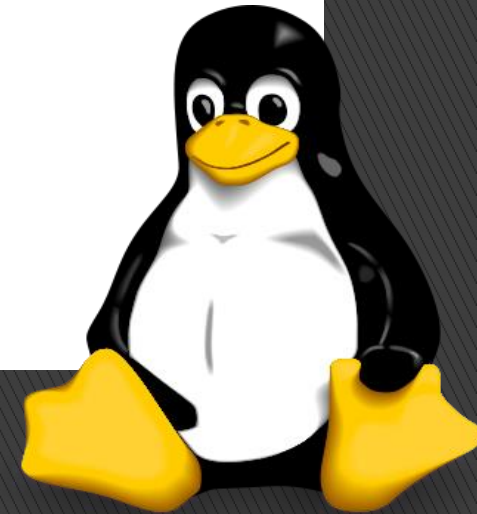
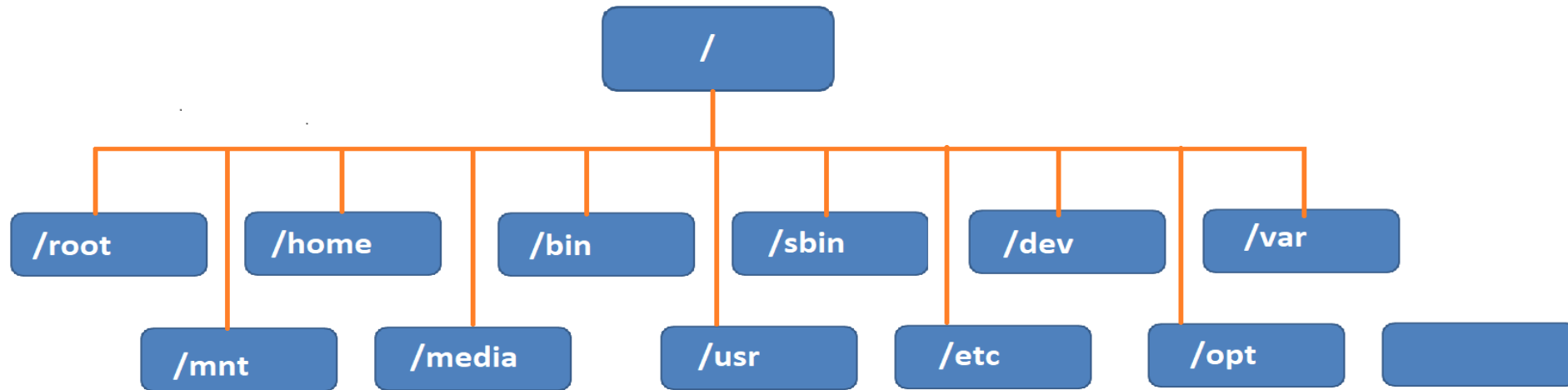



Directory Structure: RHEL 8

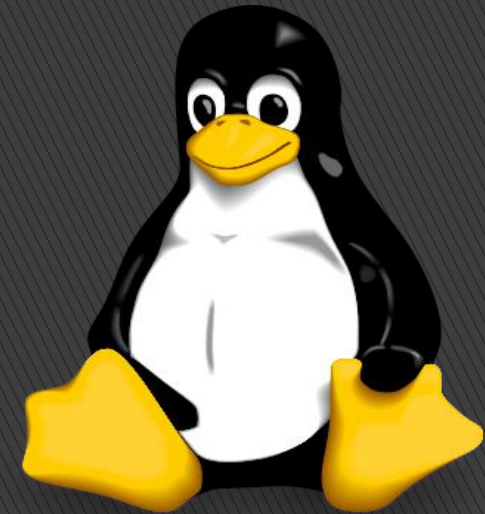
- ▶ In Linux everything is represented as a file including hardware program, the files are stored in a directory, and every directory contains a file with the tree structure. That called File System Hierarchy.
- ▶ Linux uses single rooted, inverted tree-like structure.
- ▶ Root Directory represent with / (forward slash)
It is top level directory in RHEL & all Linux.



FILE SYSTEM HIERARCHY

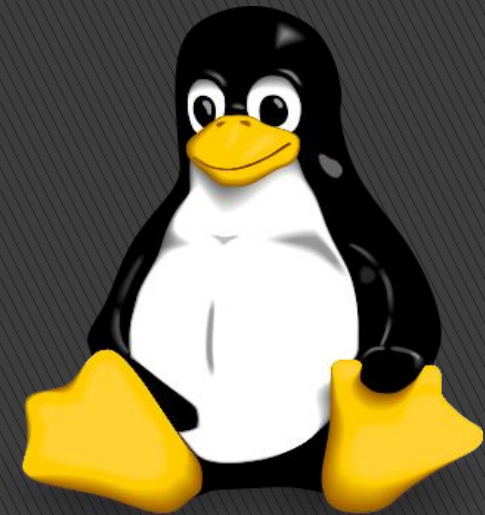


- 
- ▶ The base of Linux directory is the root. This is the starting point of FHS. Every directory arises from the root directory. It is represented by a forward slash (/).
 - ▶ If someone says to look into the slash directory then they referring to the root directory



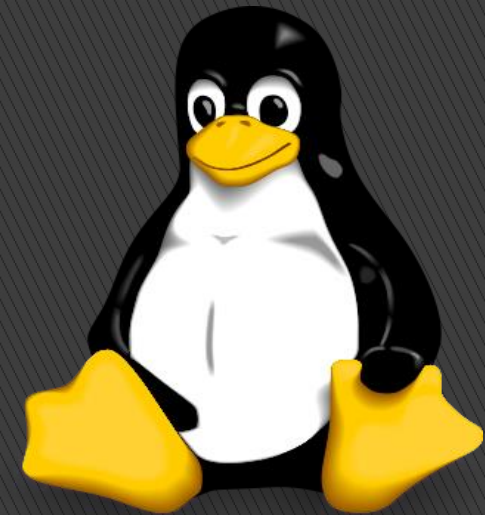
/root

- ▶ It is home directory for the root user (superuser).



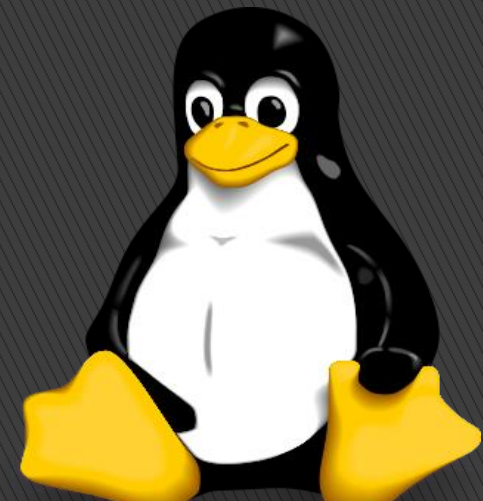
/bin – User Binaries

- ▶ Contains binary executable.
- ▶ Common Linux commands you need to use in single-user modes are located under this directory.
- ▶ Commands used by all the users of the system are located here.
- ▶ For example:
ps, ls, ping, grep, cp.



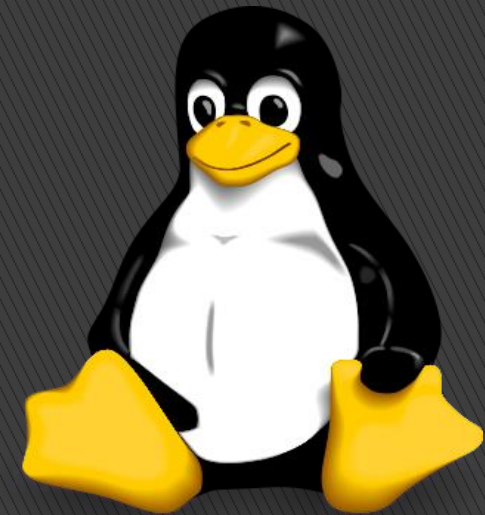
/sbin – System Binaries

- ▶ Just like /bin, /sbin also contains binary executables.
- ▶ But, the linux commands located under this directory are used typically by system administrator, for system maintenance purpose.
- ▶ For example: iptables, reboot, fdisk, ifconfig, swapon



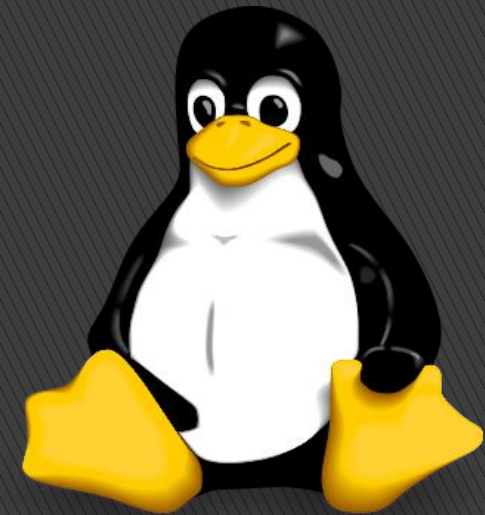
/dev – Device File

- it contains hardware device files,
- Contains device files.
- These include terminal devices, usb, or any device attached to the system.
- For example: /dev/tty1, /dev/usbmon0



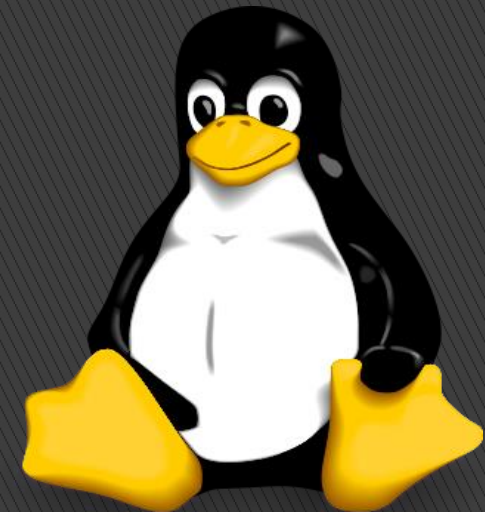
/var – Variable File

- ▶ The variable data files such as log files are located in the /var directory.
- ▶ File contents which tend to grow are located in this directory.
- ▶ **This includes**
 - /var/log: System log files generated by OS and other applications.
 - /var/lib: Contains database and packages files.
 - /var/mail: Contains Emails.
 - /var/tmp: Contains Temporary files needed for reboot.



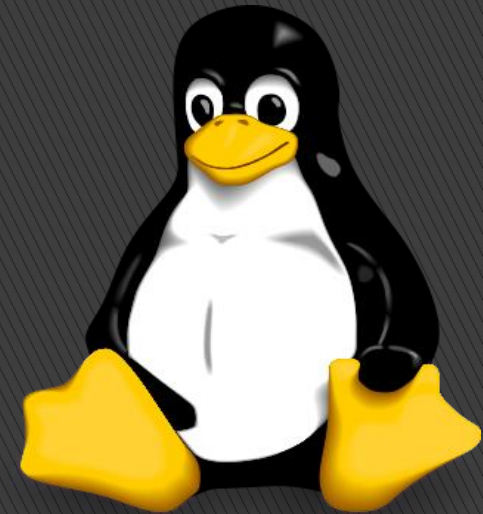
/mnt – Mount Directory

- This directory is used to mount a file system temporarily



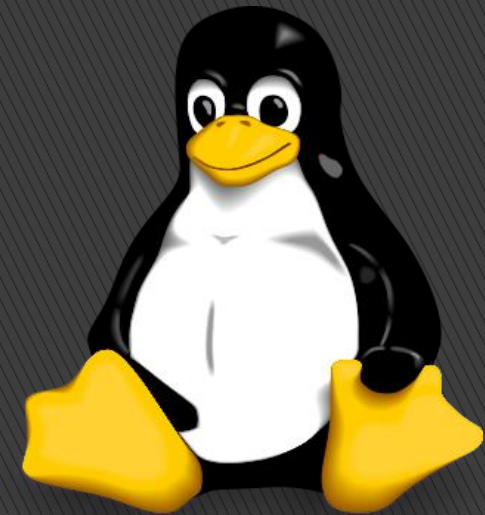
/media – Removable Media Devices

- The /media directory contains subdirectories where removable media devices inserted into the computer are mounted.
- For example,
 - when you insert a CD into your Linux system, a directory will automatically be created inside the /media directory.
 - You can access the contents of the CD inside this directory.



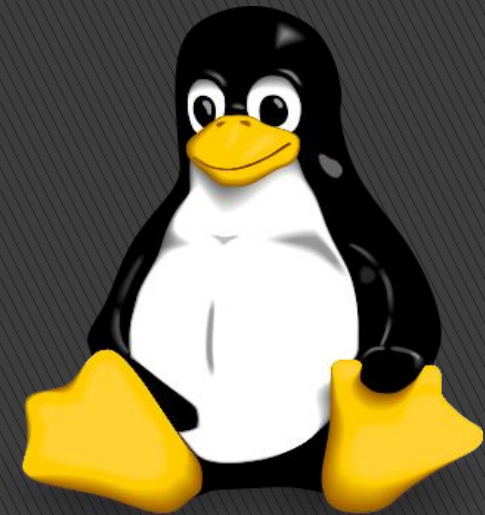
/usr – User Binaries

- The /usr directory contains applications and files used by users, as opposed to applications and files used by the system



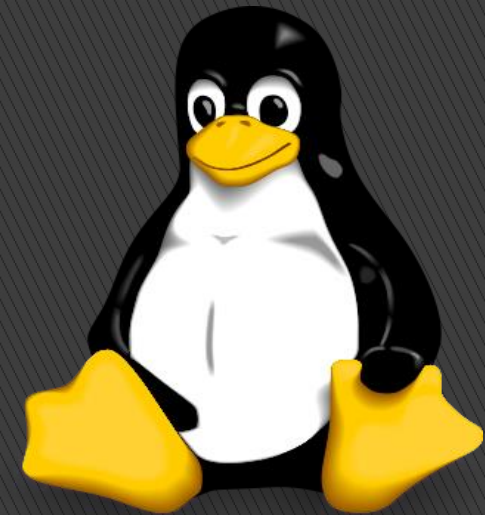
/etc – Configuration Files

- It contains all configuration file of server
- The core configuration files are stored in /etc directory. It controls the behavior of an operating system or application. This directory also contains startup and shutdown program scripts that are used to start or stop individual programs.



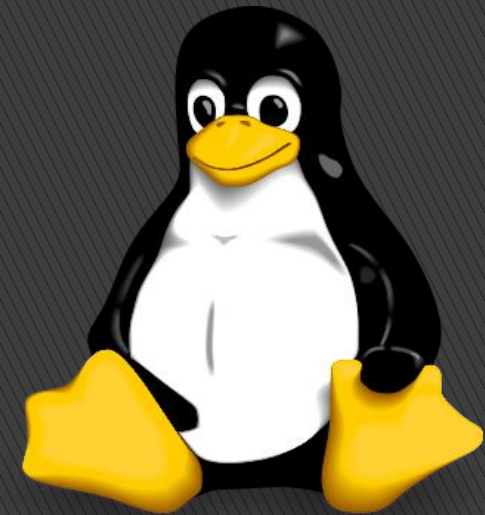
/boot – Boot Loader Files

- The /boot directory contains the files needed to boot the system
- – for example,
- the GRUB boot loader's files and your Linux kernels are stored here



/opt – Optional Applications

- The opt directory is used for installing application softwares from third-party vendors that are not available in the Linux distribution. Usually, the software code is stored in the opt directory and the binary code is linked to the bin directory so that all users can run that software.
- For example,
- Google Earth application doesn't come under Linux distribution and it is installed in the /opt/google/earth directory.

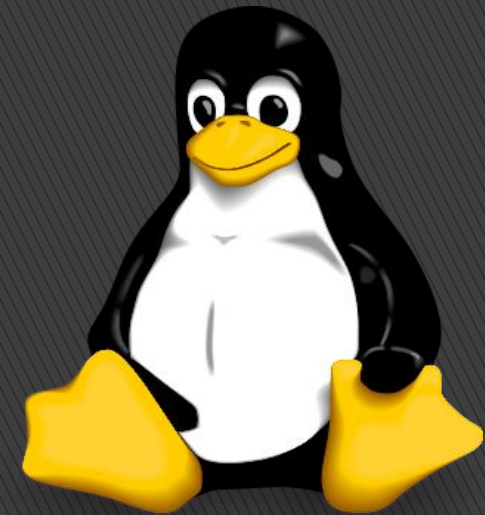


/home – Home Directory

- It contains secondary users' home directory.

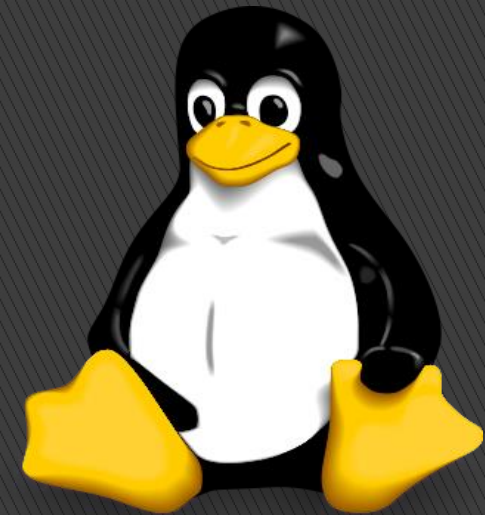
For example,

- if your user name is bob, you have a home folder located at /home/bob.
- This home folder contains the user's data files and user-specific configuration files. Each user only has write access to their own home folder



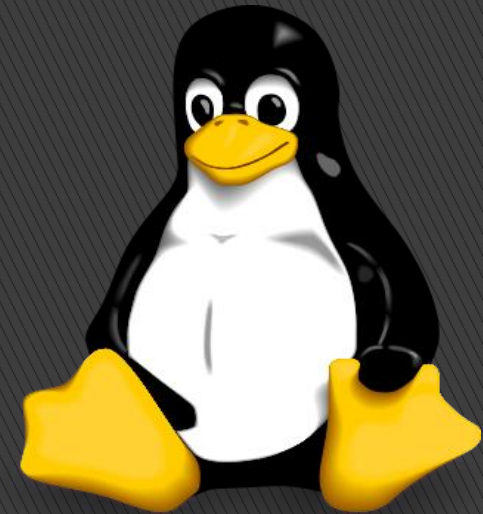
/tmp – temporary file

- ▶ Directory that contains temporary files created by system and users.
- ▶ Files under this directory are deleted when system is rebooted.



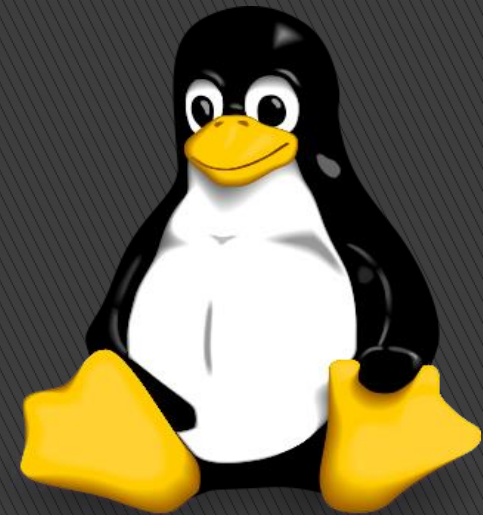
/proc –Process Information

- ▶ Contains information about system process.
- ▶ This is a pseudo filesystem contains information about running process.
- ▶ **For example:**
/proc/{pid} directory contains information about the process with that particular pid.



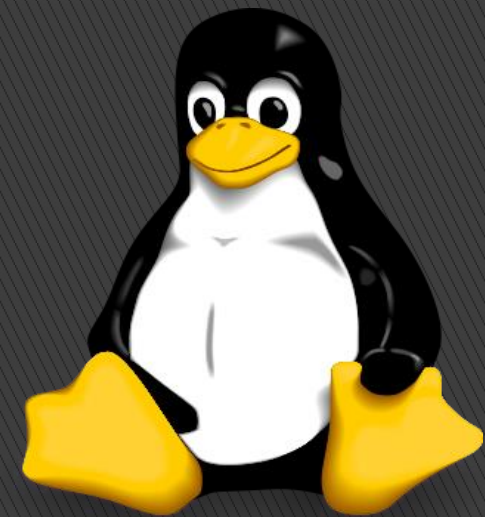
What is Bash

- **Bash** (Bourne Again Shell) is the free version of the Bourne shell distributed with **Linux** operating systems
- It provide command line interface in Linux operating system, it is upgraded version of Bourne shell which is so popular in Unix OS.



What is command

Command is a simple software program or code that execute in backend when we run any command on Bash (Terminal)



Basic Commands

- #pwd** – it show present working directory
- #ls** – it show available files and directory list in present working directory.
- #uname** – it show name of kernel (OS)
- #uname -r** – it show version of kernel
- #cd** – it use for change directory
- #clear** – it use for clear screen
- #whoami** – it show currently login user name
- #history** – it show list of previously used commands
- #date** – it show time and date

