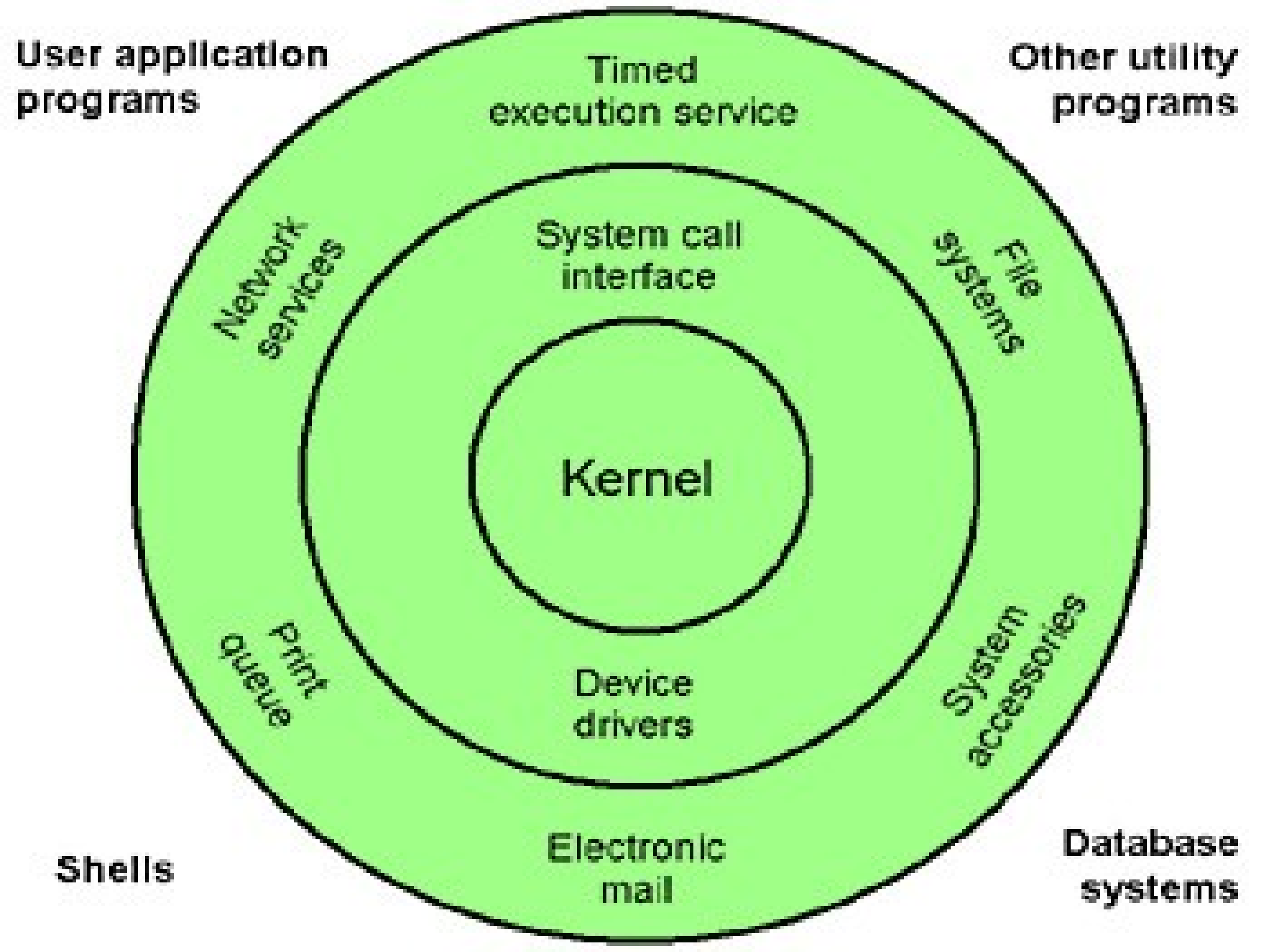


MAKING OF A COMPUTER SUITE

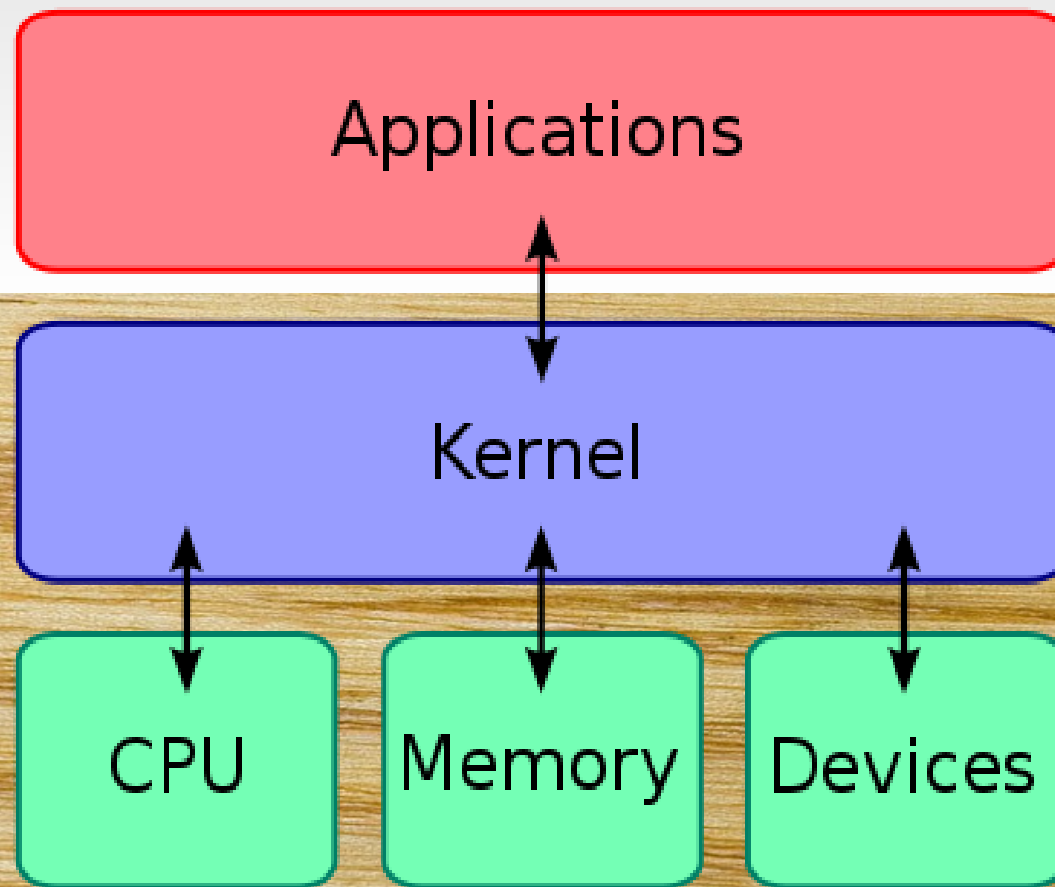




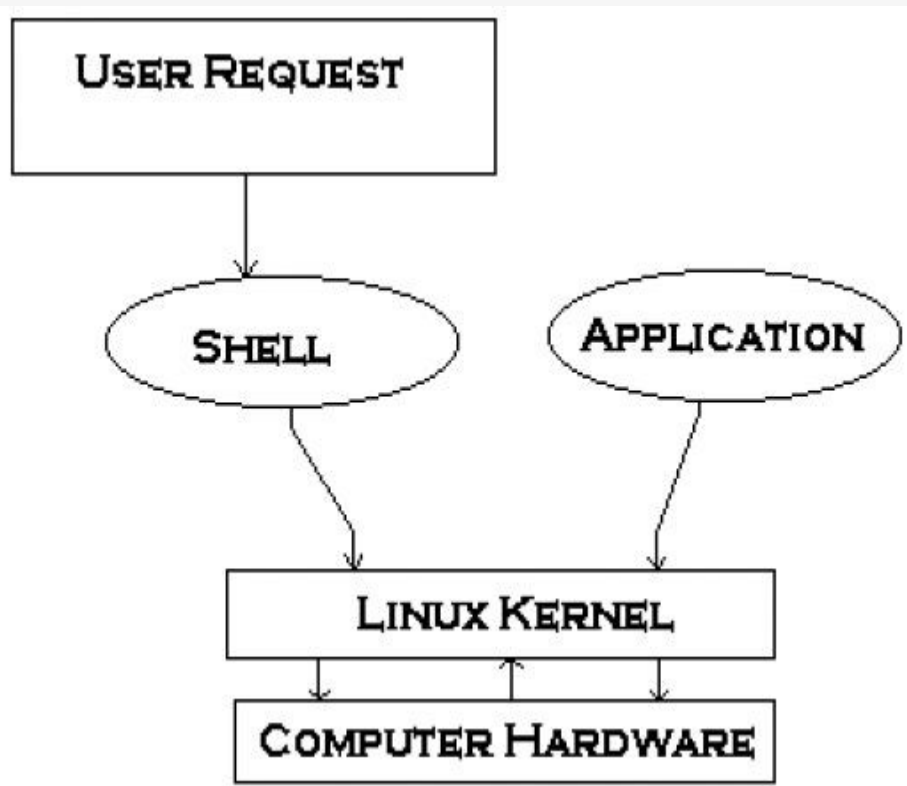
FILE & DIRECTORY COMMANDS

cd	Change directory
mkdir	Create new folder
Ls	Show list of files in current directory
rm	Remove file or directory
Cp	Copy file or directory
Ls -r	Recursive list of files and directories
Rm -r	Remove directory and files in directory
Mv	Move or rename file
gzip	Compress or uncompress files

WHAT IS THE KERNEL?



WHAT IS A SHELL?



Bash--Bourne-again shell (GNU)

cshC--shell (BSD)

jsh--Job control shell (SVR4)

ksh--Korn shell (Bell Labs)

rc--Plan 9 shell (Bell Labs)

rsh--Remote shell (TCP/IP)

sh--Bourne shell (UNIX 7th Edition)

tcsh--Popular extension of the C shell

zsh--Popular extension of the Korn shell

ABSOLUTE & RELATIVE PATHS.

Absolute Path

- An absolute path starts at the root of the directory hierarchy, and names directories under it:
- `/etc/hostname`
- `$ ls /usr/share/doc/`

Relative Path

- Paths don't have to start from the root directory
- A path which doesn't start with `/` is a relative path
- `$ cd /usr/share/doc`
- `$ cd /`
- `$ cd usr`
- `$ cd share/doc`

COMMON COMMANDS

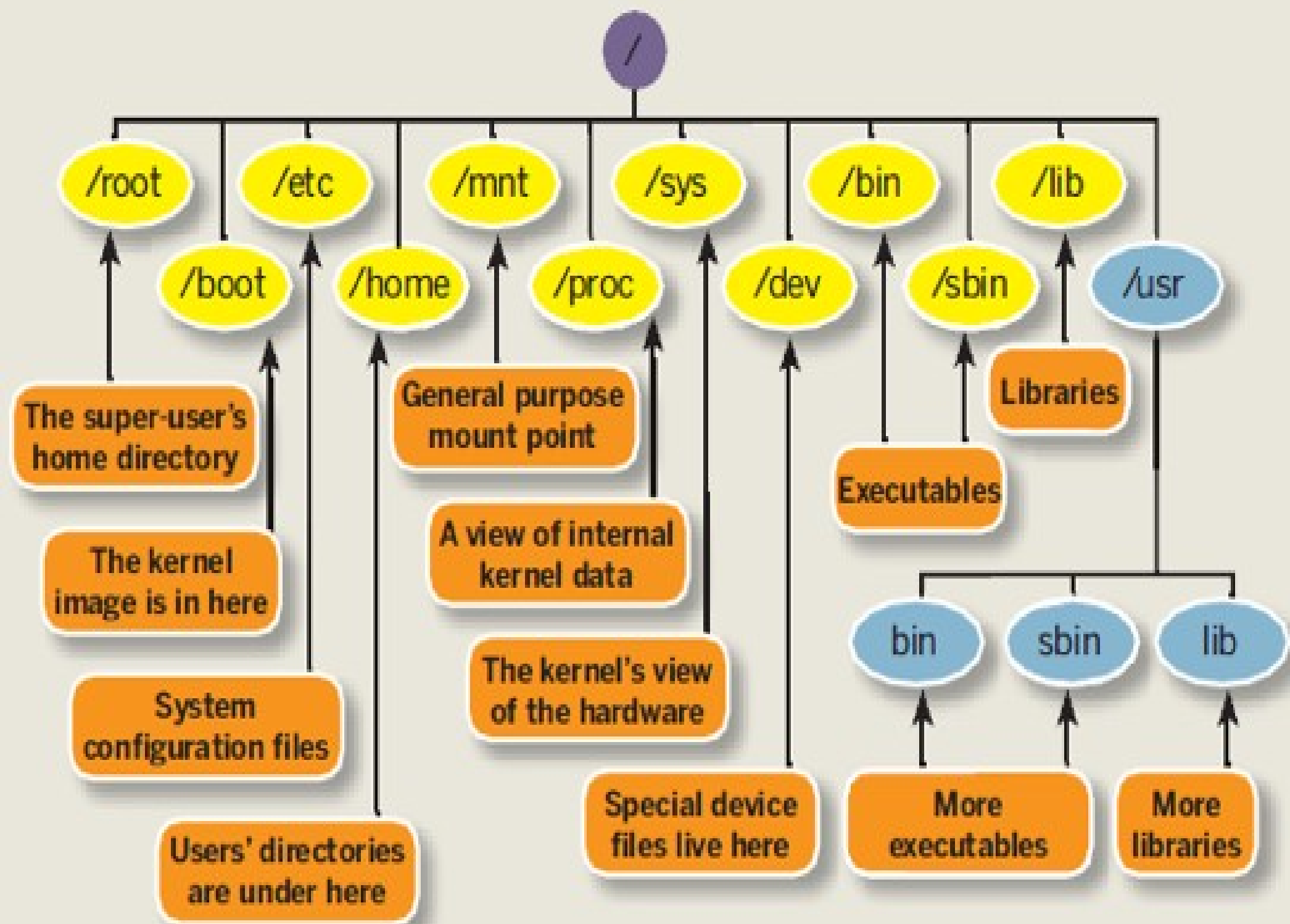
Command	Effect
su	Login as root
sudo	Login as root using your password
cat	Show output on screen
ls	List files
ps	List processes
Passwd	Change your password
Init 0	shutdown
Cp	copy
mkdir	Make directory

LINUX FILESYSTEM HIERARCHY

- /
- /bin
- /boot
- /dev
- /etc
- /mnt
- /media
- /root
- /sys
- /tmp
- /usr
- /var

PROCESS COMMANDS

ps	List all running processes
Kill <<pid>>	Kill process using process id
xkill	GUI program to kill a process
Killall <<name>>	Kill by process name
lpc	Printer process control
Ps -A	Show list of all processes



- Bin stands for binary.
- Contains the useful command which are used by everyone in terminal.
- Contains shells like bash, csh etc as well as much used commands like cp, mv, rm, cat, ls.

- Contains the boot loader files.
- Grub and linux kernel.

- Stands for devices.
- Highlights one important characteristic of the Linux filesystem - everything is a file or a directory.
- No real subfolder.
- When you first boot up ur computer it detects your hardware and place folder and files representing your hardware in the dev directory.

- Configuration files get stored.
- More importantly, the `/etc/rc.d` directory contains the system startup scripts.
- This is a good directory to backup often. Saves lot of re-configuration later if you re-install or lose your current installation.

- Linux is a multi-user environment so each user is also assigned a specific directory which is accessible only to them and the system administrator.
- containing saved files, personal settings, etc.

- Mount point for removable disk like CDROM, pendrive.

- Mount point for temporary mounted file system.
- Mounting is the process by which you make a filesystem available to the system.

- This directory contains all the software and add-on packages that are not part of the default installation.
- Again, this directory is not used very often as it's mostly a standard in Unix installations.

- We talked about user home directories earlier and well this one is the home directory of the user root.
- Not to be confused with the system root.

- pseudo file system residing in the virtual memory.
- maintains highly dynamic data on the state of your operating system.
- a new /proc file system is created every time your Linux machine reboots.
- Everything regarding your hardware like bluetooth, different slots, bus etc. is stored in it.

- Contains binary (executable) files, usually for system administration.
- This directory contains all the binaries that are essential to the working of the system.

- This directory contains mostly files that are required temporarily.
- This directory is cleared out at boot or at shutdown.

- Unix System Resources
- Lot of subdirectories
- Shared data, library, binary, application will be located.
- Secondary hierarchy for read-only user data; contains the majority of (multi-)user utilities and applications.

- Variable files whose content is expected to continually change during normal operation of the system such as logs, spool files, and temporary e-mail files. Sometimes a separate partition.

USERS, GROUPS AND ACCESS PERMISSIONS

- In UNIX/LINUX, there is a concept of user and an associated group
- The system determines whether or not a user or group can access a file or program based on the permissions assigned to them.
- Apart from all the users, there is a special user called Super User or the root which has permission to access any file and directory

ACCESS PERMISSIONS

- There are three permissions for any file, directory or application program.
- The following lists the symbols used to denote each, along with a brief description:
 - r — Indicates that a given category of user can read a file.
 - w — Indicates that a given category of user can write to a file.
 - x — Indicates that a given category of user can execute the file.

ACCESS PERMISSIONS

❏ Each of the three permissions are assigned to three defined categories of users.

❏ The categories are:

owner — The owner of the file or application.

group — The group that owns the file or application.

others — All users with access to the system.

ACCESS PERMISSION OF FILE/DIRECTORY

- The ownership of the file or directory can be changed using the command

`chown <owner> <file/directory name>`

- The group of the file or directory can be changed using the command

`chgrp <group> <file/directory name>`

- The permissions of the file can be changed using `chmod` command

`chmod -R ### <filename or directory>`

- `-R` is optional and when used with directories will traverse all the sub-directories of the target directory changing ALL the permissions to `###`.

ACCESS PERMISSION OF FILE/DIRECTORY

■ The #'s can be:

0 = Nothing

1 = Execute

2 = Write

3 = Execute & Write (2 + 1)

4 = Read

5 = Execute & Read (4 + 1)

6 = Read & Write (4 + 2)

7 = Execute & Read & Write (4 + 2 + 1)

DEBIAN OPERATING SYSTEM

- Free and Open source
- Can be installed on ARM,PC,IBM Zseries
- 20k software packages
- APT package managemeny system
- Debian Social Contract
- DFSG

DEBIAN RELEASES

- Squeeze (Stable Version)
- Wheezy (Testing Version)
- Sid (Unstable ersion)

DERIVATIVES

- Debian distribution branch Distribution
 - **Stable** Kanotix, CrunchBang Linux, Floppix
 - **Testing** Parsix, Linux Mint (Debian edition)
 - **Unstable** Ubuntu, Semplice Linux
 - **Unknown** Damn Small Linux, Xandros, Knoppix

DEBIAN PACKAGES

- What is a repository?
- Additional Repositories
 - Main
 - Contrib
 - Non-free
 - Experimental

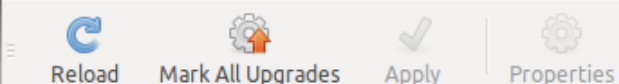
INSTALLING DEBIAN PACKAGES

- apt-get or aptitude
- Synaptic Package Manager
- Ubuntu Software Center
- dpkg
- Source files

- Adding sources to `"/etc/apt/sources.list"`
- `Vi /etc/apt/sources.list`
`deb http://ftp.us.debian.org/debian`
`squeeze main contrib non-free`
- Aptitude was originally designed as a front-end for dpkg.
- apt can be used for installing, removing, updating debian packages.

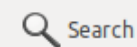
"apt-get Commands"

- apt-get install (package)
- apt-get remove (package)
- apt-get -purge remove (package)
- apt-get update
- apt-get upgrade
- apt-get dist-upgrade



Quick search

evolution



All	S	Package	Installed Version	Latest Version	Description
Amateur Radio (universe)	<input checked="" type="checkbox"/>	evolution	2.30.3-1ubuntu7.1	2.30.3-1ubuntu7.1	groupware suite with mail client and organizer
Base System	<input checked="" type="checkbox"/>	evolution-indicator	0.2.10-0ubuntu1	0.2.10-0ubuntu1	GNOME panel indicator applet for Evolution
Communication	<input type="checkbox"/>	evolvotron		0.6.1-1	Generator of textures through interactive evolution
Communication (multiverse)	<input type="checkbox"/>	syncevolution		1.0+ds1~beta2a-1ubun	Evolution data synchronization program using SyncML
Communication (universe)	<input type="checkbox"/>	sync-ui		1.0+ds1~beta2a-1ubun	Evolution data synchronization program using SyncML (GTK+ GUI)
Cross-platform	<input type="checkbox"/>	avida-qt-viewer		2.0b7-4.2ubuntu1	qt viewer for avida
Cross-platform (multiverse)	<input type="checkbox"/>	evolution-plugins-experimental		2.30.3-1ubuntu7.1	experimental plugins for Evolution
Cross-platform (universe)	<input type="checkbox"/>	evolution-mapi		0.30.3-1ubuntu1	Exchange support for the Evolution groupware suite
Databases	<input type="checkbox"/>	opensync-plugin-evolution		0.39-1	Evolution plugin for opensync
Databases (universe)	<input type="checkbox"/>	evolution-dbg		2.30.3-1ubuntu7.1	debugging symbols for Evolution
Debug	<input type="checkbox"/>	evolution-exchange-dbg		2.30.3-0ubuntu2	Exchange plugin for Evolution with debugging symbols

No package is selected.

- Sections
- Status
- Origin
- Custom Filters
- Search Results

INSTALLING FROM SOURCE

```
# tar xvzf package.tar.gz (or tar xvjf  
package.tar.bz2)
```

```
# cd package
```

```
# ./configure
```

```
# make
```

```
# make install
```