Linux Fundamentals

MULTI-USER OPERATION

- In UNIX and Linux, all interactions with the OS are done through designated \users“
- users who each have an identification ID (login name) and a (password).



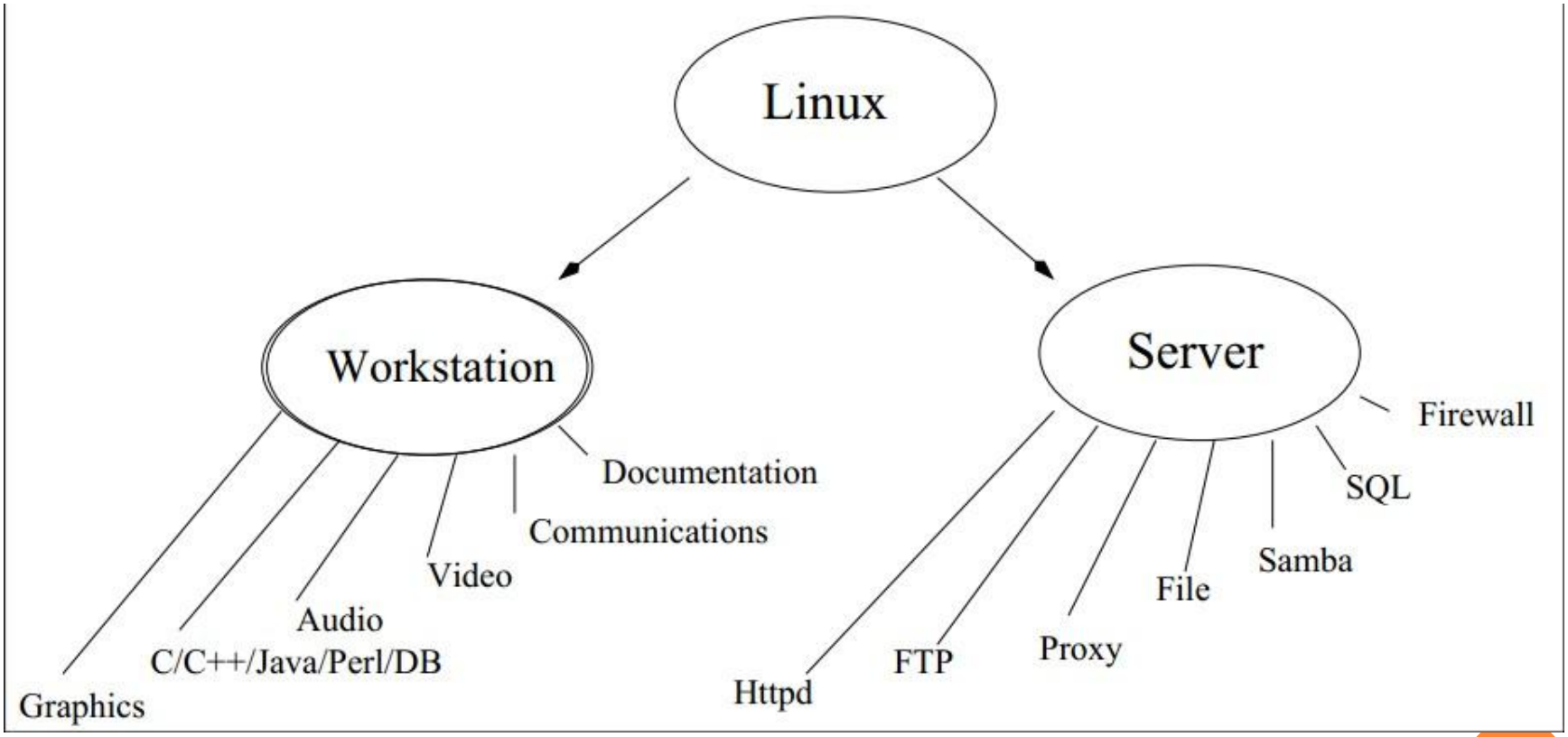
- The most powerful user is called **superuser** or **root**“, and has access to all files and processes.
- The **superuser** does many of the system management tasks like adding regular users, file backups, system configuration etc.

WHY LINUX?

- Linux can operate as a web, file, smb (WinNT), Novell, printer, ftp, mail, SQL, masquerading, firewall, and POP server to name but a few.
- It can act as a graphics, C, C++, Java, Perl, Python, SQL, audio, video, and documentation, development workstation etc.



Linux Uses


Linux
Workstation
Server
Graphics
C/C++/Java/Perl/DB
Audio
Video
Communications
Documentation
Httpd
FTP
Proxy
File
Samba
SQL
Firewall

Why Linux?

- Linux is a good solution for developers that need a stable and reliable platform that has open source code.
- Its not a good system for beginning developers that want a simple GUI interface to a programming language.

Linux Login

- Need to have user id and password .
- Every successful login is known as a user session.
- You can have multiple user sessions on the same host.
- User sessions can be graphical or text-based.
- For text-based user sessions. You can have a default of 7 sessions.



- To alternate between text-based user sessions, we use the keys sequences of ALT-F1 TO ALT-F6. These 6 keys will toggle between the 6 user sessions.
- ALT-F7 is a special key sequence to enter into the graphical user session if the X-server is started.

LINUX LOGIN

- In Linux users have the ability to do remote text-based or graphical user sessions.
- Different users can be logged in at the same time.
- The host is shared between different users at the same time.
- To find out the list of currently logged in users, we use the ‘who’ command to find out.



Linux Commands

- Linux commands are text-based.
- They are enter using a text-based user session.
- Be careful! Linux commands are case-sensitive. This means the following:-
- If ‘who’ is the correct command.
- ‘Who’, ‘WHO’, ‘wHo’, ‘wHO’, etc are all incorrect due to the casesensitivity.
- So if we indicate the command is ‘who’ it means ‘who’ literally!



Log out/ off

- If in graphical user session, choose log-off item from the System menu.
- If in text-based user session, we can use the following commands:-
- ‘exit’
- Key sequence of CTRL-D

Linux File System

- The Linux file system is different from that of Windows. There are no C: D: E: …. etc drives on Linux.



- The Linux file system has a common point. The point is always known as the root directory. It's symbol is '/'. All other sub-directories and files are derived from this root.
- Linux documentation can refer to files or directories using absolute or relative references.

Absolute References

- An absolute reference in Linux is the exact path starting from the root directory to the file or sub-directory.
- Examples of absolute references.
- /etc/fstab
- /etc/sysconfig/network
- /usr/home/student



Relative References

- A relative reference is a path starting from the current working directory.
- Examples of relative references. If the current working directory is '/usr'. And we need to refer to a file '/usr/home/student/fileA'. We can refer to it using the following relative references.
- home/student/fileA
- ./home/student/fileA
- Special symbol '.' in relative reference means the current working directory.
- Special symbol '..' in relative reference means the parent directory.



Some Common Linux Commands

- To obtain a file listing of the current working directory, we can use the ‘ls’ command.
- To examine the content of a file, we use the ‘cat’ command.
- To find out the absolute path leading to the command. We use the ‘which’ command.

More Linux Help

- In addition to the command mini help, we can also refer to the following commands to obtain comprehensive help.
- ‘man’
- ‘info’
- ‘whatis’

