multisoft

RHCSA CERTIFICATION
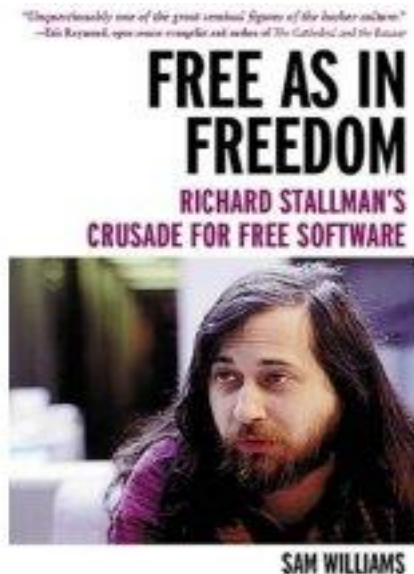
Overview

➢ What is Unix/Linux?

➢ History of Linux

➢ Features Supported Under Linux

➢ The future of Linux

Before Linux

➢ In 80's, Microsoft's DOS was the dominated OS for PC

➢ Apple MAC was better, but expensive

➢ UNIX was much better, but much, much more expensive. Only for minicomputer for commercial applications

➢ People was looking for a UNIX based system, which is cheaper and can run on PC

➢ Both DOS, MAC and UNIX were proprietary, i.e., the source code of their kernel is protected

➢ No modification is possible without paying high license fees

Established in 1984 by Richard Stallman, who believes that software should be free from restrictions against copying or modification in order to make better and efficient computer programs

"Unquestionably one of the great seminal figures of the hacker culture"
—Eric Raymond, open source evangelist and author of The Cathedral and the Bazaar

FREE AS IN FREEDOM

RICHARD STALLMAN'S CRUSADE FOR FREE SOFTWARE

SAM WILLIAMS

GNU is a recursive acronym for "GNU's Not Unix"

Aim at developing a complete Unix-like operating system which is free for copying and modification

Companies make their money by maintaining and distributing the software, e.g. optimally packaging the software with different tools (Redhat, Slackware, Mandrake, SuSE, etc)

Stallman built the first free GNU C Compiler in 1991. But still, an OS was yet to be developed

➢ A famous professor Andrew Tanenbaum developed Minix, a simplified version of UNIX that runs on PC

➢ Minix is for class teaching only. No intention for commercial use

➢ In Sept 1991, Linus Torvalds, a second year student of Computer Science at the University of Helsinki, developed the preliminary kernel of Linux, known as Linux version 0.0.1

Message from Professor Andrew Tanenbaum

" I still maintain the point that designing a monolithic kernel in 1991 is a fundamental error. Be thankful you are not my student. You would not get a high grade for such a design :-)"

(Andrew Tanenbaum to Linus Torvalds)

Soon more than a hundred people joined the Linux camp. Then thousands. Then hundreds of thousands
It was licensed under GNU General Public License, thus ensuring that the source codes will be free for all to copy, study and to change.
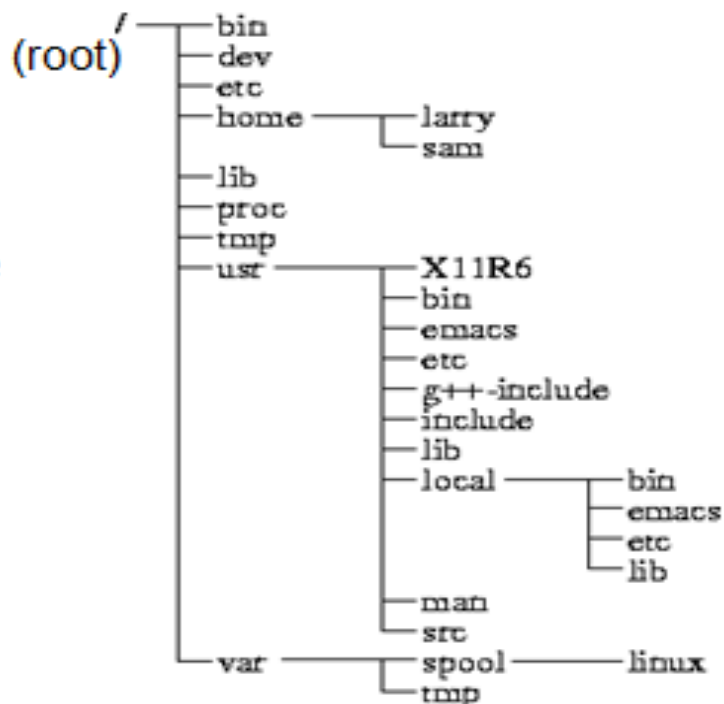
Linux Today

➢ Linux has been used for many computing platforms PC, Supercomputer,…

➢ Not only character user interface but graphical user interface is available

➢ Commercial vendors moved in Linux itself to provide freely distributed code.
 They make their money by compiling up various software and gathering them in a distributable format

➢ Red Hat, Slackware, etc

➢ Shell interprets the command and request service from kernel

➢ Similar to DOS but DOS has only one set of interface while Linux can select different shell
   Bourne Again shell (Bash), TC shell (Tcsh), Z shell (Zsh)

➢ Different shell has similar but different^{ls} functionality

➢ Bash is the default for Linux

➢ Graphical user interface of Linux is in fact an application program work on the shell

whoami   pwd

Bash, Tcsh, Zsh

Kernel
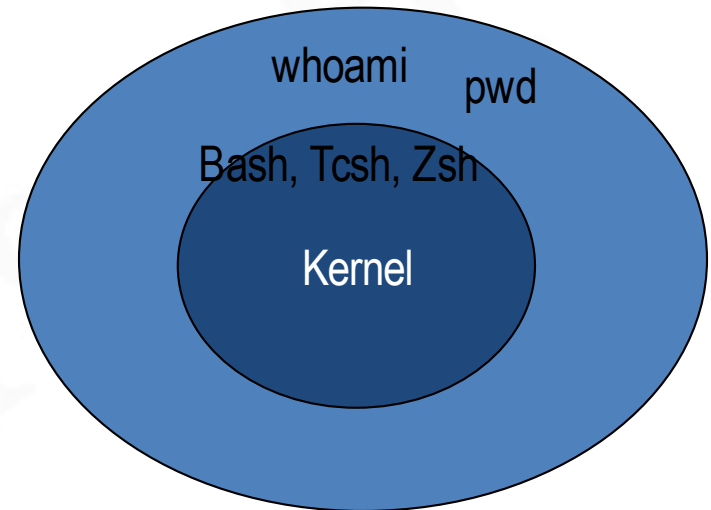
Directory Tree

When you log on the the Linux OS using your username you are automatically located in your home directory.

```
         /  ──┬─ bin
  (root)      ├─ dev
              ├─ etc
              ├─ home ──────┬─ larry
              │             └─ sam
              ├─ lib
              ├─ proc
              ├─ tmp
              ├─ usr ───────┬─ X11R6
              │             ├─ bin
              │             ├─ emacs
              │             ├─ etc
              │             ├─ g++-include
              │             ├─ include
              │             ├─ lib
              │             ├─ local ──────┬─ bin
              │             │              ├─ emacs
              │             │              ├─ etc
              │             │              └─ lib
              │             ├─ man
              │             └─ src
              └─ var ───────┬─ spool ──────── linux
                            └─ tmp
```

The most important subdirectories inside the root directory are:

➢ **/bin** : Important Linux commands available to the average user.

/boot : The files necessary for the system to boot. Not all Linux distributions use this one. Fedora does.

➢ **/dev** : All device drivers. Device drivers are the files that your Linux system uses to talk to your hardware. For example, there's a file in the /dev directory for your particular make and model of monitor, and all of your Linux computer's communications with the monitor go through that file.

➢ **/etc** : System configuration files.

➢ **/home** : Every user except root gets her own folder in here, named for her login account. So, the user who logs in with linda has the directory /home/linda, where all of her personal files are kept.
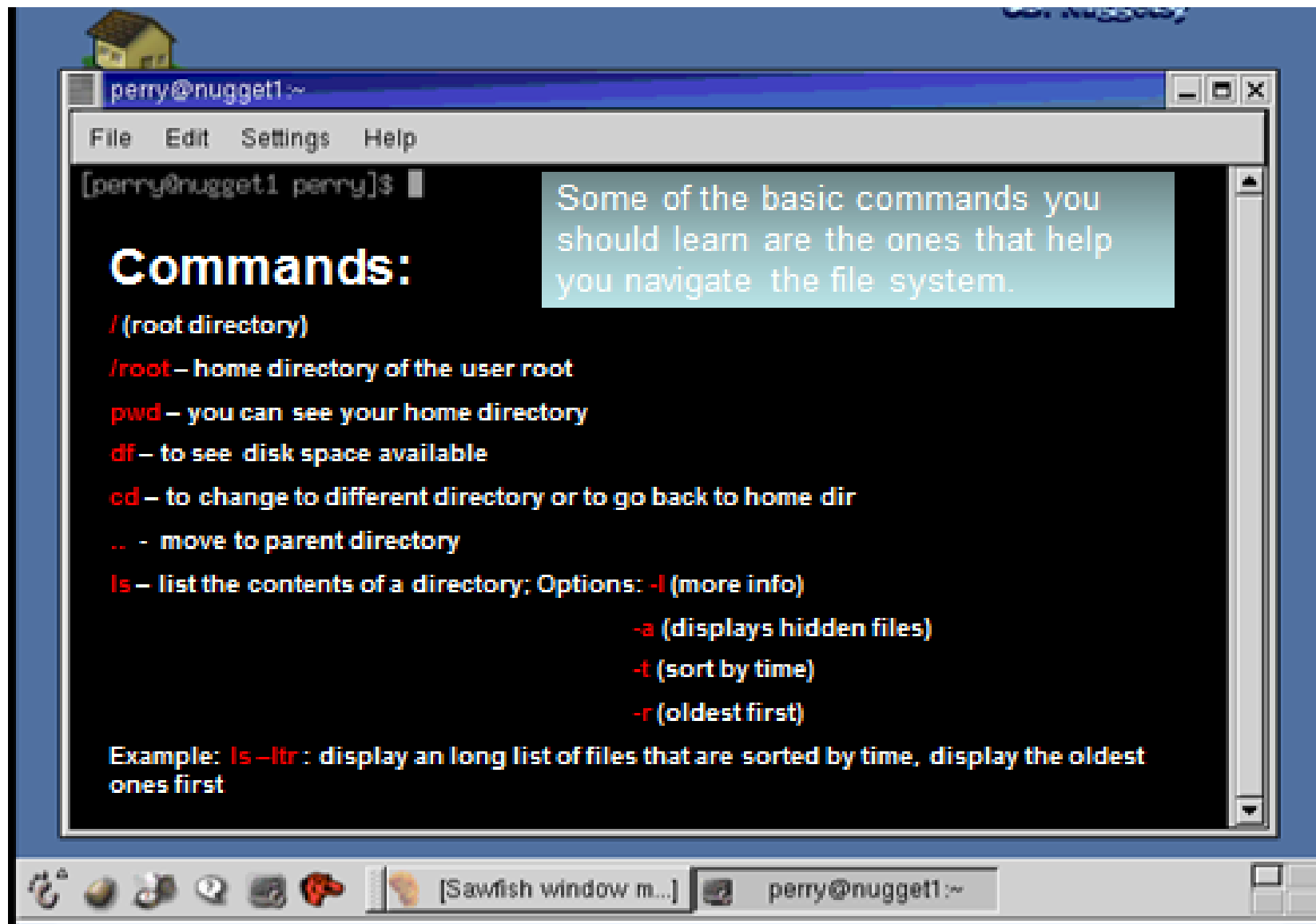
➢ **/lib** : System libraries. Libraries are just bunches of programming code that the programs on your system use to get things done.
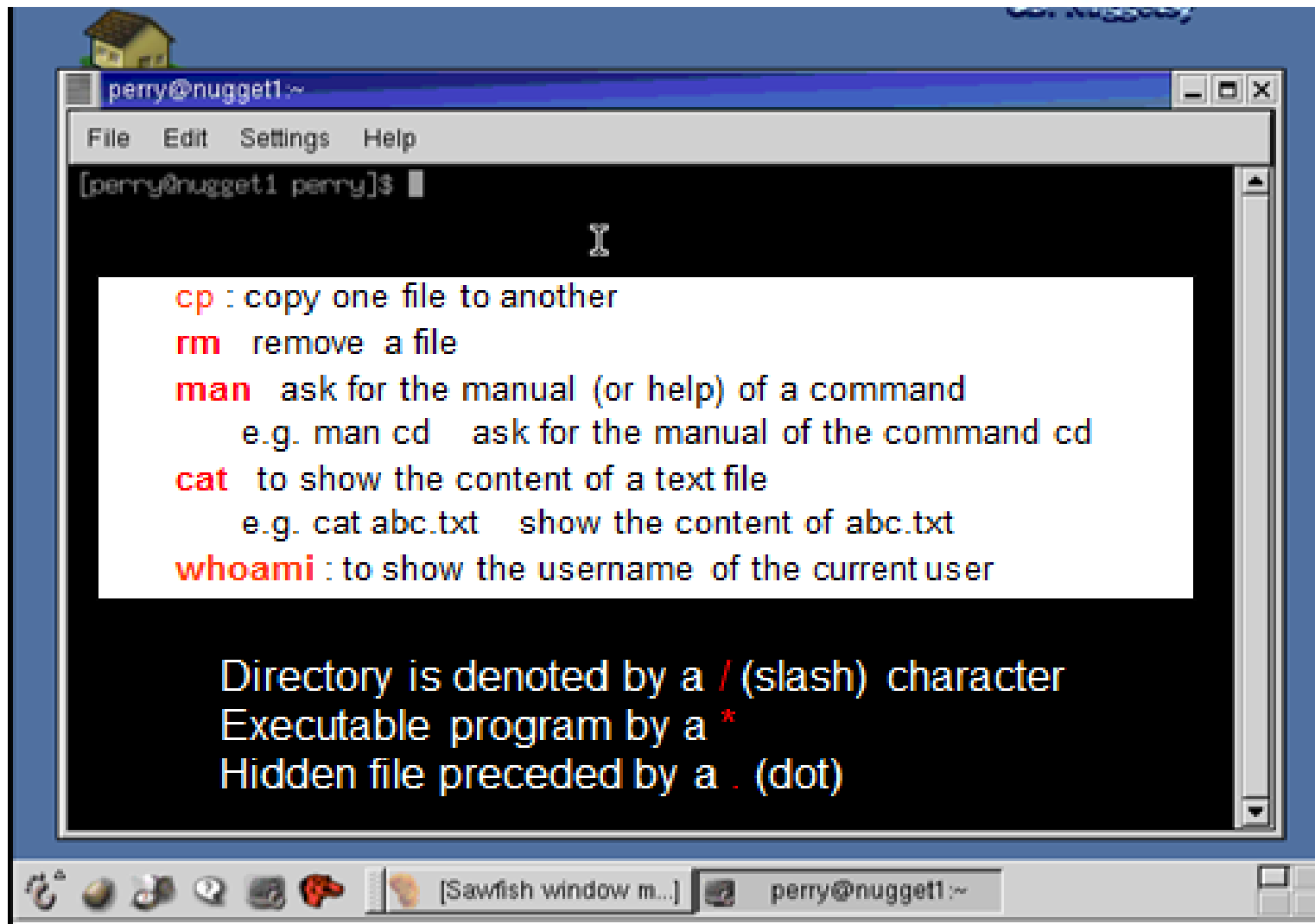
The most important subdirectories inside the root directory are:

- ➢ **/mnt :** Mount points. When you temporarily load the contents of a CD-ROM or USB drive, you typically use a special name under /mnt. For example, many distributions (including Fedora) come, by default, with the directory /mnt/cdrom, which is where your CD-ROM drive's contents are made accessible.
- ➢ **/root** : The root user's home directory.
- ➢ **/sbin** : Essential commands that are only for the system administrator.
- ➢ **/tmp** : Temporary files and storage space. Don't put anything in here that you want to keep. Most Linux distributions (including Fedora) are set up to delete any file that's been in this directory longer than three days.
- ➢ **/usr** : Programs and data that can be shared across many systems and don't need to be changed.
- ➢ **/var** : Data that changes constantly (log files that contain information about what's happening on your system, data on its way to the printer, and so on).

Home directory

- You can see what your home directory is called by entering
- pwd (print current working directory)

perry@nugget1:~

File   Edit   Settings   Help

[perry@nugget1 perry]$

Commands:

Some of the basic commands you should learn are the ones that help you navigate the file system.

/ (root directory)

/root – home directory of the user root

pwd – you can see your home directory

df – to see disk space available

cd – to change to different directory or to go back to home dir

.. - move to parent directory

ls – list the contents of a directory; Options: -l (more info)

-a (displays hidden files)

-t (sort by time)

-r (oldest first)

Example: ls –ltr : display an long list of files that are sorted by time, display the oldest ones first

[Sawfish window m...]   perry@nugget1:~

perry@nugget1:~

File   Edit   Settings   Help

[perry@nugget1 perry]$

cp : copy one file to another

rm   remove a file

man   ask for the manual (or help) of a command
    e.g. man cd   ask for the manual of the command cd

cat   to show the content of a text file
    e.g. cat abc.txt   show the content of abc.txt

whoami : to show the username of the current user

Directory is denoted by a / (slash) character
Executable program by a *
Hidden file preceded by a . (dot)

[Sawfish window m...]   perry@nugget1:~

```
dlun@enpklun.polyu.edu.hk: /home/dlun/Desktop

File   Edit   Settings   Help

[dlun@enpklun Desktop]$ ls
Autostart                     Red Hat Support.kdelnk    cdrom.kdelnk
Printer.kdelnk                Templates                 floppy.kdelnk
Red Hat Errata.kdelnk         Trash
[dlun@enpklun Desktop]$
[dlun@enpklun Desktop]$
[dlun@enpklun Desktop]$
[dlun@enpklun Desktop]$ ls -al
total 44
drwxr-xr-x      5 dlun      dlun          4096 May 17  200   .
drwx------     15 dlun      dlun          4096 Jan   4 15:  5  ..
drwxr-xr-x      2 dlun      dlun          4096 May 17  200   Autostart
-rw-r--r--      1 dlun      dlun           230 May 17  2001 P        .kdelnk
-rw-r--r--      1 dlun      dlun           159 May 17  2001 Red Hat Errata.kdelnk
-rw-r--r--      1 dlun      dlun           153 May 17  2001 Red Hat Support.kdelnk
drwxr-xr-x      2 dlun      dlun          4096 May 17  2001 Templates
drwxr-xr-x      2 dlun      dlun          4096 May 17  200  Trash
-rw-r--r--       dlun      dlun           388 May 17  2001 cdrom.kdelnk
-rw-r--r--      1 dlun      dlun           395 May 17  2 01 floppy.kdelnk
-rw-r--r--      1 dlun      dlun           144 May 17   001 www.redhat.com.kdelnk
[dlun@enpklun Desktop]$ []
```

The concept of simple file and directory is similar to DOS

Names in blue are directories, indicated by a letter d at the beginning of the line

Why Linux certifications ?

- Certifications provide **good technical materials**
- Certifications bring the **basics**
- Certifications can be **mandatory**
- Certifications bring **credibility**
- Certifications can increase **visibility**
- Certifications **speed up** the **learning curve**
- Certifications is an add-on to your **experience**

A Word About Red Hat

➤ Red Hat is a global leader in open source solutions and software that uses a community powered approach for providing high performance and reliable cloud, virtualisation, storage, operating system.

➤ There are several Red Hat certifications that target job roles and real time experience.

➤ The Red Hat Certified Systems Administrator (RHCSA) is the basic certification which approves an administrator's knowledge about configuring local storage, working with security controls like Firewalls, SELinux, and mage the user base and file systems. It adds to the skills of remote storage connection, web server administration, SMTP and FTP services and various other skills.

RHEL7 RHCSA (EX200)

➤ The-**RHCSA-**exam
(**R**ed **H**at **C**ertified **S**ystem **A**dministrator), also called **EX200**, is a performance-based exam lasting **2 hours and half**, focusing on installation and server configuration on **RHEL 7.**

➤ You can take the exam in a classroom setting monitored by a proctor or in a **I**ndividual **E**xam**S**ession (**IES**) remotely monitored.

multisoft
Virtual Academy

Thank You

FOR MORE DETAILS, CONTACT UNDERSIGNED

✉ enquiry@multisoftvirtualacademy.com

📞 (+91) 8130666206 / 209

🌐 www.multisoftvirtualacademy.com