

CS 344 – UNIX OS

Fundamentals – Lecture #2

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Other Directives

- Input redirection – “<”
 - e.g., `pr < myfiles`
- Append output to a file – “>>”
 - e.g., `cat newfile >> outfile`
- Execute multiple commands – “;”
 - e.g., `clear; date`

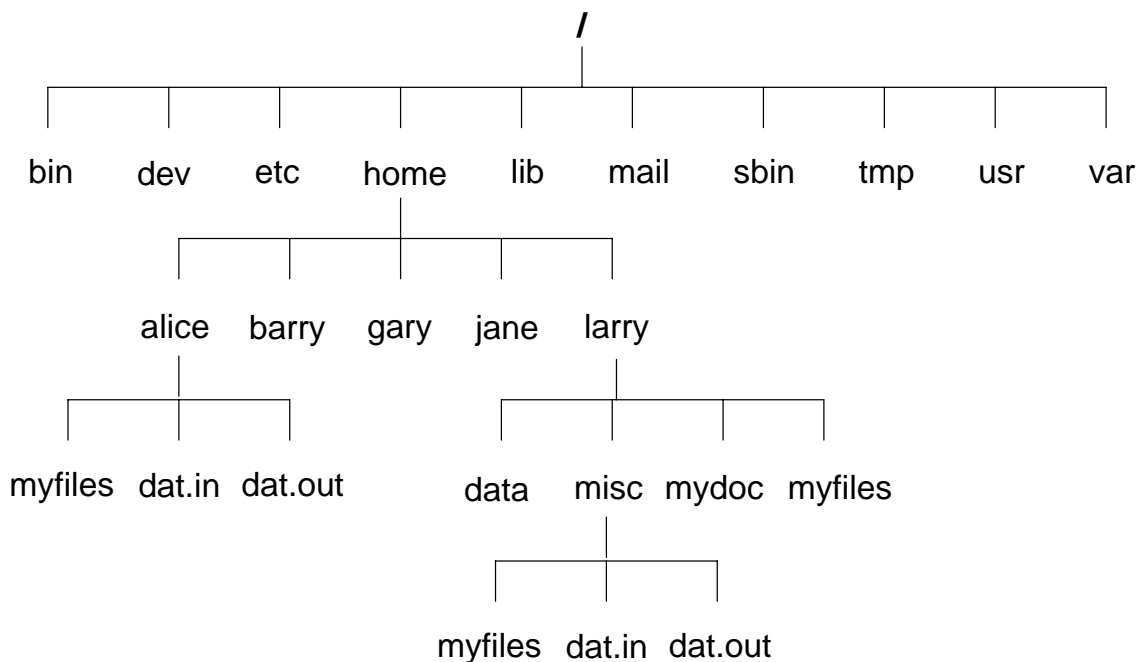
Directory Structure

- Similar to “Folders” in Windows
- Natural way to organize files into directories and sub directories
- “/” (forward slash) is used as a separator between directories and files
- “/” is also to used to denote the root directory (highest directory in hierarchy)
- When we login we will be in the HOME directory (e.g., /home/puri)
- “pwd” command prints the current directory we are in
- “cd” command is used to change directories

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Typical Directory Structure



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Working with Directories

- Change directory
 - `cd <directory-name>`
 - `cd`; `cd mydir`; `cd ./mydir`; `cd ..`; `cd ../misc`; `cd ~/mydir`;
- Create directory
 - `mkdir <options> <directory-name>`
 - `mkdir mydir`; `mkdir /home/puri/mydir`; `mkdir ../mydir`
- Remove directory
 - `rmdir <options> <directory-name>`
 - `rmdir mydir`; `rmdir /home/puri/mydir`; `rmdir ../mydir`
- Details about a command can be obtained using the “man command” – e.g., `man mkdir`

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Listing Directories and Files

- “ls” lists files and directories
- By default “ls” displays directories and files sorted in alphabetic order column-wise
- Other options can be used to display details in different formats
 - long listing: `ls -l`
 - long listing in reverse order: `ls -lr`
 - list sorted by time stamp: `ls -t`
 - see man page for more options

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View Files

- Using “more”
 - more <filename>
 - SPACEBAR to move forward
 - move forward and backwards – n and b
 - search for a string – /<string>
- Other options to view files – cat, head, tail
- Combining cat (head, tail) and more
 - cat myfile | more
 - tail -200 myfile | more
- Using editors (vi, emacs, etc.)

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“wc” command

- wc <options> filename
- Default behavior is to print number of lines, words, and characters followed by the filename
- Count lines – wc -l <filename>
- Count words – wc -w <filename>
- Count characters – wc -c <filename>
- Count lines & words – wc -lw <filename>
- Also “wc” can be used with input redirection
 - cat <filename> | wc -l
 - ls | wc

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Copy Files

- Copy files using “cp” command
- Usage: cp <options> <source> <target>
- Some common options:
 - Interactive (prompt when overwriting) – i
 - Preserve permissions and ownership – p
 - Recursive copy – r
- Examples:
 - cp mydoc newdoc
 - cp mydoc ../
 - cp ../newdoc .
 - cp -r mydir /home/puri/old-dir/

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Rename or Move Files

- Rename/move files using “mv” command
- Usage: mv <options> <source> <target>
- Some common options:
 - Prompt for confirmation – i
 - Move without confirmation (force) – f
- Examples:
 - mv -i mydoc newdoc
 - mv -f mydoc ../
 - mv ../newdoc .
 - mv mydir /home/puri/old-dir/

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Remove Files

- Remove files using “rm” command
- Usage: `rm <options> <filename>`
- Some common options:
 - Prompt for confirmation – `i`
 - Move without confirmation (force) – `f`
 - Recursive remove – `r`
- Examples:
 - `rm mydoc`
 - `rm -f mydoc ../newdoc`
 - `rm -i ../newdoc`
 - `rm -r mydir`