About shells and command lines

Computer Literacy 1 Lecture 6
06/10/2008

Topics

- General Shell and its name
- GUI Shells
- CLI Shells
- Shell Commands for Windows
- Shell Commands for UNIX
- SSH

The Shell

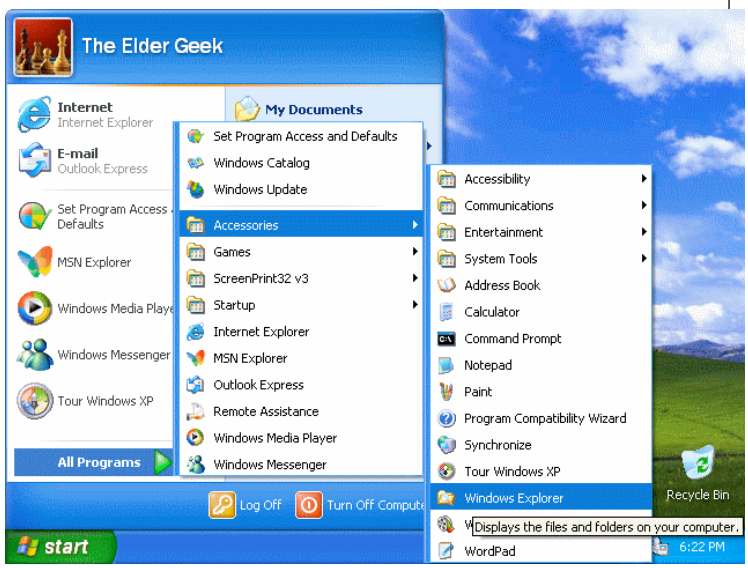
- Shell is another term for user interface (What other user interface do you know?)
- Sometimes called command shell
  - The shell is the command processor interface
  - After verifying that commands are valid, the shell sends them to another part of the command processor to be executed
- Unix for example offers a choice between several different shells

Why Shell

- The name “shell” originates from being an outer layer of the interface between the user and the inside of the OS
- 2 categories:
  1. GUI
  2. Command line

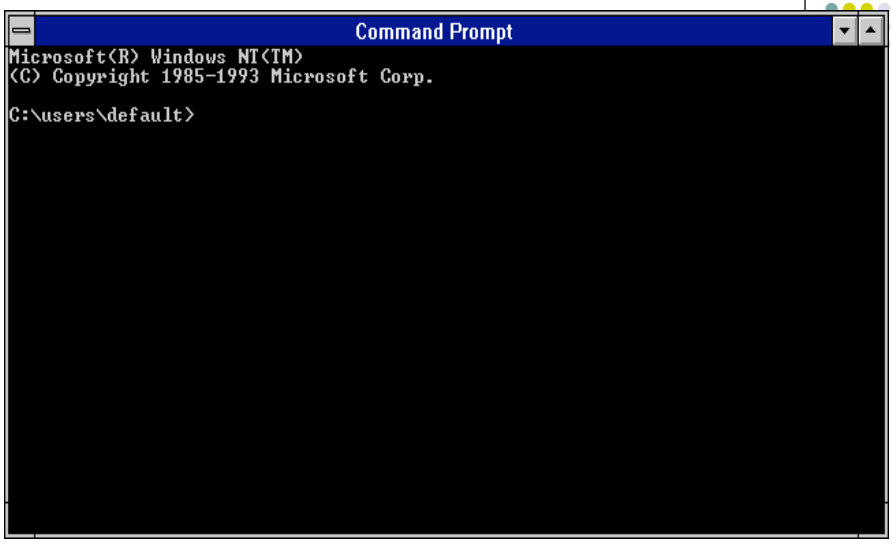
Graphical Shells

- GUI shells
- Common in Microsoft Windows (and Mac Os X)
- Modern Windows is using Explorer as GUI shell
  - Provides
    - Desktop environment
    - Start menu
    - Task bar
    - File management



Command Line Shells

- CLI or Text Shells
- Called: Command prompt in Windows
- Called: Terminal in Mac
- Unix shells
  - Bourne again shell
  - Korn shell
  - C shell



Windows Command Prompt

- Windows command prompt is run from its own window provided by *cmd.exe*
- Command prompt window can be opened by entering *cmd* into **Start-Run** or through **Start-All Programs-Accessories**
- A black and white window containing the command prompt will open
- It is possible to open several windows containing command prompts, all running independently
- Be sure that you are where you want to be and that you know where to go before typing in command

Windows Commands

- Deleting files in *myfolder*
  - `del /s myfolder\*`
  - `del` = delet
  - `/s` provides deletion in subfolders
  - `*` (wildcard) allows for multiple deletions
- Command will delete all files in *myfolder* and all files in any subfolders of *myfolder*

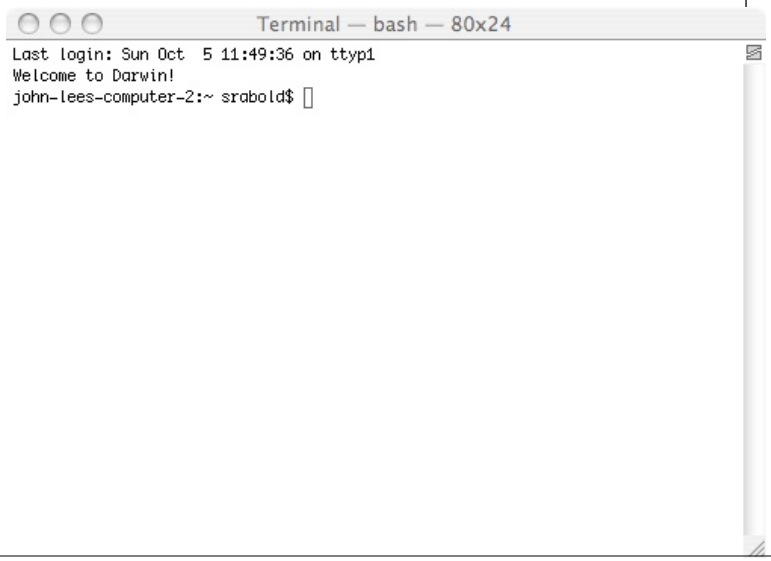
Windows Commands

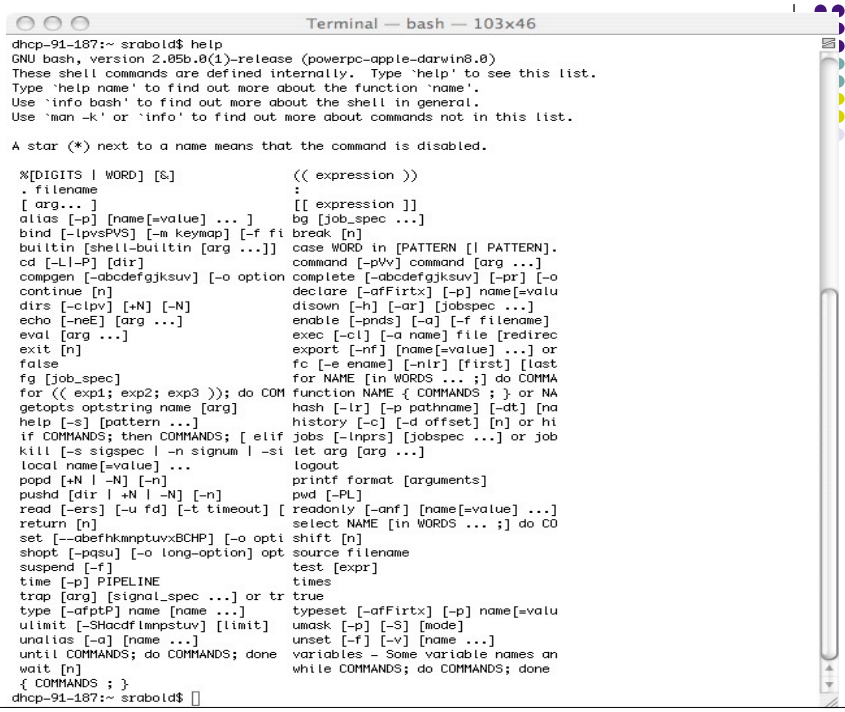
- `xcopy` → copying large numbers of files or backing up a large folder
  - `xcopy myfolder mybackup /d:06-01-2008`
- Only files changed after 06/01/08 (or any given date) are copied
- If no date is specified `/d` will copy all files that have changed at any time

Windows Commands

- Moving files
- `move` takes a file from one folder and puts it in another
- `move /y folder1\*.mp3 folder2\`
- will move all *MP3* files from `folder1` to `folder2`
- `/y` is used if you want to prevent the system from asking if it should overwrite existing files of the same name
- To prevent overwriting, use `/-y`

Mac terminal/shell





Unix Command Line Shells

- Bourne shell (sh)
- Was default shell for Unix in 1977

"Nobody really knows what the Bourne shell's grammar is. Even examination of the source code is little help."

Tom Duff (computer programmer now working for Pixar animation studios)

Unix Command Line Shells

- C-shell
  - Now replaced by Tenex C shell (tcsh) and Korn shell (ksh)
- Bourne-again shell (bash)
  - Default shell on most GNU/Linux systems as well as Mac Os X
  - Can be run on most Unix-like Operation Systems

Unix Commands

- `cd` = **C**hange **D**irectory.
- Lets you navigate to different directories (folders)
  - `cd Documents` go into a subdirectory (of the current directory) named "Documents"
  - `cd Documents/temp` go into "Documents", then from there into a subdirectory named "temp"
  - `cd ~` go to your home directory (note: that's a tilde, not a dash)

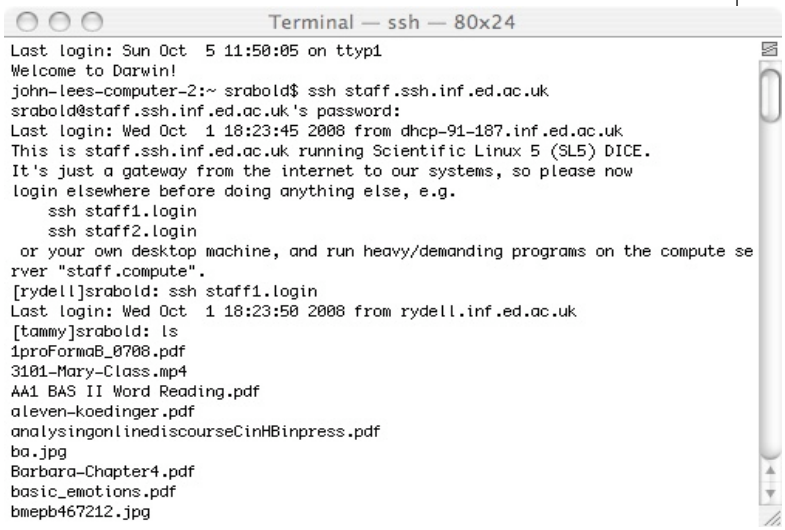
Unix Commands

- `pwd` = **P**rint **W**orking **D**irectory.
  - Prints the path of the current working directory (i.e. it tells you where you are)
- `ls` = **List** the files in the current directory, and (optionally) their characteristics
  - `ls -l` (long) list the files with their characteristics (size, privs, owner, etc)
  - `ls -a` list all files in the current directory (including those that would normally be invisible)
  - `ls *.jpg` list the names of all files with names ending in ".jpg"

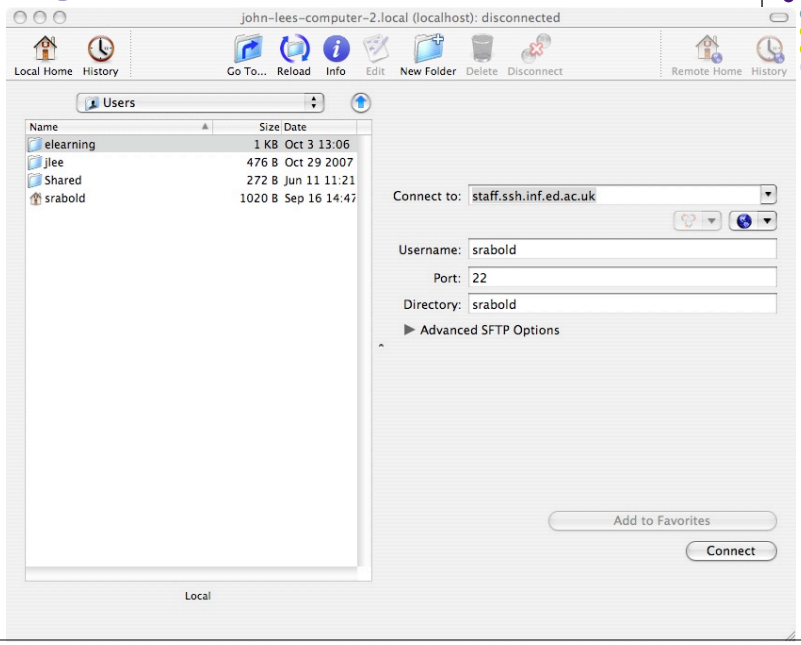
What is SSH?

- Secure Shell or SSH
- Allows user to log in a remote machine from outside via a secure channel and execute programms
  - SSH can connect you via command line
  - But also via client interface
    - Fugu e.g. for Mac
    - WinSCP for Windows
    - More : PuTTY, Telnet etc…

SSH Mac Command Line



Fugu



Key points

- What is a shell
- Windows command prompt
- How to use command lines in Windows
- Mac terminal
- Unix shells
- Command lines in Unix/Mac
- SSH via command line or GUI interface