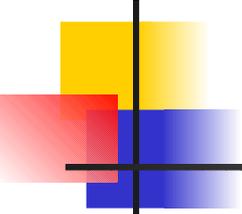


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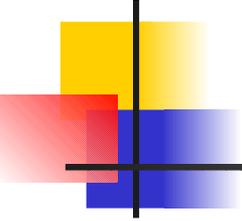
Introduction to Linux



Agenda

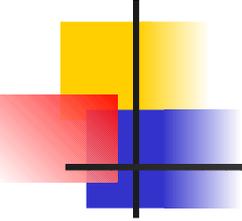
Getting Started: Using Linux

- Unix and Linux - Structure / Features
- Elements of the Linux Philosophy
- Linux Command Structure
- Command Line Editing
- Online Linux Command Manual (man)



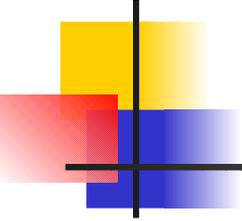
Unix Features

- The Unix operating system has the ability to run many processes (jobs) at the same time. Many jobs create other jobs that run simultaneously (for example, the Unix OS Kernel is a job which creates other jobs such as scheduling tasks, etc).
- Running many processes at the same time can allow many users to connect to and use the computer resources at the same time (This concept is referred to as "multitasking").
- The Unix file system allows users to share or restrict access to their files and directories.
- Unix allows for a "Super-user" or "root" account to update or modify the UNIX Kernel (operating system).



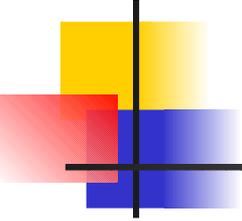
Unix Features

- The Unix Shell provides a command interpreter to allow the user to communicate with the computer system (both on a software and hardware basis).
- There are over one thousand commands available. Many of these commands or "utilities" are available for the regular user. There are also commands that are available for the "super-user" for administering the OS.
- The Shell is not only a command interpreter, but is also a programming interface ♦ i.e. commands can be bundled into files to be run (shell scripts) to accomplish many tasks.



The Unix Philosophy

- The Unix operating system is considered to be a “complex” operating system by the beginning user.
- In order to get an “intuitive feel” (better understanding) of Unix, users should understand the philosophy of Unix which was developed by its creators over 30 years ago.



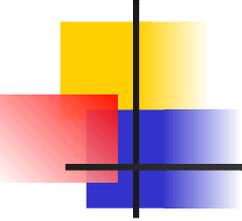
The Unix Philosophy

“Keep It Small and Simple (KISS)”

Do one task well (i.e. A command should be designed to do only one task and do it well).

“Understand the Unix Hierarchy”

Everything on the UNIX OS is interpreted as a file (file, directory, device). Directories are structured in a Hierarchical nature (like a family tree) to better organize material. Similar concept applies to processes



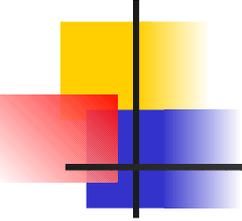
The Unix Philosophy

“Using Pipe (Filters)”

Unix OS commands can be connected by a mechanism called "pipes" to modify results from a command (called "filtering"). In this way, small and specific commands can be connected together to achieve the desired output or results.

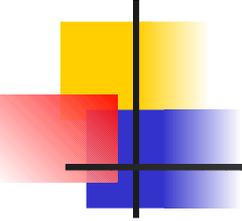
“People can Read”

There is much documentation available to help the user to solve problems related to Unix and Linux OS such as HOWTO manuals, online documentation and newsgroups.



Utilities (Commands)

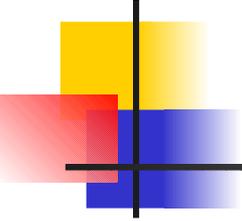
- For the remainder of this course, you can assume that utilities and commands mean the same thing.
- Linux commands are usually typed in lowercase followed by an argument (or arguments).
- Pressing ENTER or RETURN signals that you have completed giving an instruction and that you are ready for the OS to execute the command or respond to your message.



Unix Command Structure

command [arg 1] [arg 2] ... [arg n]

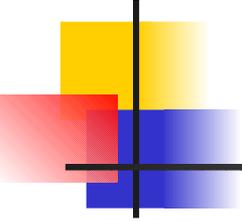
- An argument is a filename, string or text, or some other object that a command acts upon.
- An option is also an argument that modifies the effect of a command.
- A space, a number of spaces, or a tab can be used to separate command from argument, or separate arguments.



Command Line Editing

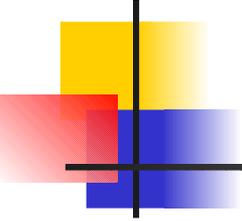
You can correct mistyped command prior to pressing ENTER or RETURN

- Erase Characters
 - **Backspace or CTRL-Backspace or CTRL-h**
- Delete a Word
 - **CTRL-w**
- Delete an Entire Line
 - **CTRL-u**



Command Line Editing

- Aborting Program Execution
 - **DELETE or CTRL-c**
- Recalling Previous Commands
 - Depends on shell & .profile setup
 - Matrix / Zenit:
 - Up arrow , Down arrow



Online Command Manual (man)

A comprehensive online manual for
common UNIX commands

format:

`man [options] command`

Options:

-k provides short (one-line) explanation relating
to the commands matching the character
string

eg. `man -k calendar`