

Section Overview

- X Windows
- Consoles and Terminals
- UNIX Commands
- UNIX Filesystem
- **vi** Editor

X Windows

- Familiar GUI interface
- Virtual screens
- Remote applications
- X-Terminal Windows
 - Multiple concurrent session
 - Scroll bars
 - Cut, Copy & Paste

X Managers & Environments

- X Window Managers
 - Very configurable
 - A lot of variety
 - GUI login mode
- X Window Environment
 - Fully integrated environment
 - Window manager runs within the environment

Why use the command line?

- Always available
 - GUI not installed/working
 - Remote sessions
- More efficient
- More powerful
- Better understanding of what is happening

UNIX Terminals

- Old Days
 - Hardwired – serial connections
 - Modems – remote connections
- Network – telnet
- Console
 - Monitor/keyboard/mouse on system
 - Boot/error messages display
 - *Headless* servers

Virtual Consoles in Linux

- Multiple sessions on one console
- Special Consoles
 - Console 1 – default console
 - Console 7 – X Windows
- Toggling between consoles
 - Text mode - `<Alt><Fn>`
 - X Windows - `<Ctrl><Alt><Fn>`
 - `<Fn>`: Function Key (n = 1 .. 7)

Basic Philosophy

- 10% of work solves 90% of problems
- Smaller is better
- Portability
- Solve at right level

Be Creative!!!

Command Anatomy 101

command [-switches] [arg1] [arg2]...

- Command: Name of the program
- Switches: Modify command's behavior
 - Windows typically uses "/" instead of "-"
- Arg#: Arguments passed to command

Getting Help

- Online manual available
- Searchable
 - Command/File name
 - Type/Section
 - Keyword
- Not always easy to understand

Man Page Sections

Linux	Contents
1	User commands
2	System calls
3	Library calls
5	File formats
7	Misc. files and documents
6	Games and demos
4	Devices/Network protocols
8	Administration commands
9	Kernel specs/interfaces (?)

Using man

- **man *command***
 - Look up *command*
- **man *n* intro**
 - Contents of section *n*
- **man -k string**
 - Search short descriptions (**apropos**)
- **man -K string**
 - Search all man pages for string

Account Related Commands

- **login**
 - Start session
- **passwd**
 - Change Password
- **logout / exit**
 - Close session

File/Directory Commands

- Files
 - **cp** – Copy
 - **mv** – Move/Rename
 - **rm** – Remove
 - **cat** – View all
 - **more** – View page
 - **less** – View page
- Directories
 - **ls** – List contents
 - **mv** – Move/Rename
 - **cd** – Change Dir
 - **pwd** – Current Dir
 - **mkdir** – Create
 - **rm/rmdir** – Remove

Copies, moves, and renaming

- **cp file1 file2|dir1**
 - Copy **file1** to **file2** or into directory **dir1**
- **cp -r[p] dir1 dir2**
 - Copy directory **dir1** to **dir2**
- **mv file1 file2|dir1**
 - Moves **file1** to **file2** or into directory **dir1**
 - Renames **file1** to **file2** if both in same directory

Viewing files

- **cat file1**
 - Display the contents of **file1** to the screen
- **more file1**
 - Display the contents of **file1** one screen at a time
- **less file1**
 - Same as more but more powerful

Removing files and directories

- **rm file1 file2 ...**
 - Removes list of files
- **rmdir dir1**
 - Removes **dir1** only (if it is empty)
- **rm -r dir1**
 - Removes **dir1** and all subdirectories/files
 - VERY Dangerous!!!