CST8207 – Linux o/s I

Installation
Basic Commands

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Topics

- Installation
- Root User
- Command Line
- Logging On/Off
- Basic Commands
- Help
- Absolute vs. Relative Paths
- Using Linux at home via VMWare Player

Installing Linux

- Partitions needed for Linux installation
  - To install Linux, you need to create at least two partitions:
    - / (called root partition)
    - **Swap** (for virtual memory)
  - In addition to those two partition, you can create other partitions, such as /boot, /usr …
  - The filesystem type of Linux native partition is **ext2**, **ext3**, or **ext4**

Super/Root User Access

- Root is referred to as Super user or administrator in Linux
- Login as root, you have the all the permissions /privileges to change system settings. So do only what you have to do and know exactly what you are doing.
- Root user's home directory
  - **`/root`**
- Login as root, you can easily create a regular user account by using command **`useradd`**

Linux Command Line

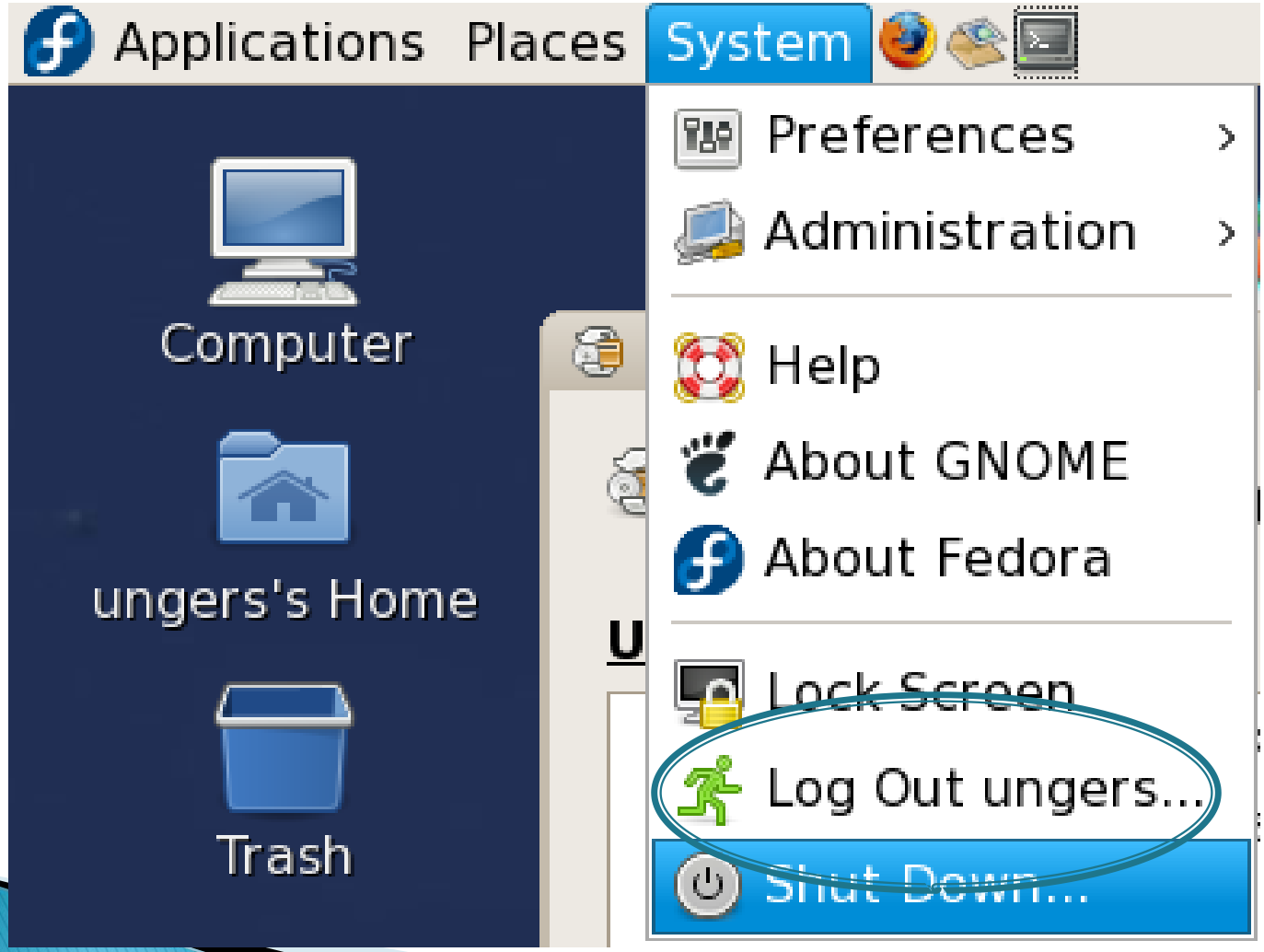
- Linux GUI is convenient to use
  - administrators still prefer to use command line utilities to do administration tasks (fast forward – cool administrators use scripts!)
- Command line utilities run on character-based terminals
- Command line utilities are often faster, more powerful and complete than their GUI counterparts, sometimes there is no GUI counterpart to a command line utility
- To run commands in FC12 GNOME environment,
  - Applications -> System Tools ->Terminal to open a console window

Linux logon and logoff

There are two approaches to logon and logoff Linux

- Using Linux command in a console or text mode
  - At login prompt, type in username and press <**Enter**>.
  - At the password prompt, type in the assigned password and press <**Enter**>
  - To logoff, type in **`exit , logout`** or **`<Ctrl+D>`**
  - Type **`reboot`** to restart your computer
  - Use **`shutdown`** or poweroff command to turn off the computer
  - **`shutdown -h now`**
  - **`poweroff`**
- In graphical interface see the next slide

Graphical Mode – Logging out



Basic Linux commands

- Some basic/useful commands
  - Change password
    - **`passwd`**
  - Find out who you are
    - **`whoami`**
  - What is the host name
    - **`hostname`**
  - Name of the operating system that is running
    - **`uname`**
  - Switch users
    - **`su`**

Basic Linux commands

- **`ls`**
  - display directory content
  - **`ls -la`** will list complete content of current directory with all available information
  - can customize look & feel of directory listing based on options selected

- **`cd` *`path`***
  - Change to directory
  - If used by itself, defaults to account's home directory

Basic Linux Commands

- **rm filenames**
  - Remove file(s)
    - **rm file1 file2 file3**
  - **rmdir directorynames (must be empty)**
    - **rmdir dir1 dir2**
  - delete dir1 and everything below it without questions
    - **rm -rf dir1**
- **cp**
  - copy file(s) from a directory to someplace different

    cp file1 file2 /home/deathstar/

Linux Basic Commands

- Almost all of the commands in Linux have a **`man`** page (Manual Page) associated with them to help you understand how they work and their options.
  - Syntax: **`man command`**
  - Example: **`man cp`** (open the manual page of **cp** command)
- Not all the commands listed in next pages will be explained or explored in lecture
  - Some will be explored in labs.
  - Familiarity with these commands will help in future labs & lectures.
- The commands listed in these slides represent only a small portion of Linux capabilities
- Do not expect you know everything once you've mastered these basic commands

Linux Basic Commands

Important: Unlike DOS & Win9x, Linux commands are COMPLETELY case sensitive !

Linux Command	***DOS Equivalent***	***Description***
Navigation and File / Directory Management		
ls	DIR /W	Shows list of files in directory
ls -l	DIR	List files in "long" format, displaying more info
pwd	CD	Print current working directory
cd [path][dir]	CD [PATH][DIR]	Change directory to [path][dir]
mkdir	MD / MKDIR	Create directory
rmdir	RD / RMDIR	Remove directory
cp	COPY	Copy file
mv	MOVE	Move (rename) file
rm	DEL	Delete file
cat	TYPE	Concatenate (display / type) text files to screen
more	MORE	Pause output after every page
find	N/A	Powerfull search program
whereis	N/A	Search for a specified executable program
echo	ECHO	Display a line of text
Help System		
man	HELP	Shows a Manual Page (help file) for a command
Info	HELP	Another help system, slowly replacing MAN pages

Absolute Path vs. Relative Path

- Two special operators used: " **.**" And "**..** "
  - "." is the current directory
  - ".." is the parent directory of the current directory

- Examples:
  - Assuming in the home directory of **`user1`**
  - want to copy **`file1`** to its parent directory

    - **`cp file1 /home`** *(using absolute path)*
    - **`cp file1 ../`** *(using relative path)*

Get Help, Find documentation

- **`man [options] command`**
  - Displays manual pages from system documentation
  - *Ex.:* **`man cp [Enter]`**
  - **`man -a command`**
    - display all man pages, not just the first one found
  - Press "**`q`**" to quit

- can also use **`info`** command
  - **`info [options] command`**
  - read, format & display info document for command
  - can be slightly less formal than **`man`** in explanations
  - almost identical options to **`man`** command above
  - Uses "nodes"

Using Linux At Home

- Copy the Virtual machine files to your home computer:
  - **D:\Virtual Machines\Fedora12**
- See email about your “second” VMware license
- Start **VMWare Workstation** and open the **.vmx** file:
  - **Fedora12.vmx**