

CSE-321

Enterprise Network Technologies: Windows 2000/Linux

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Last Lecture

- An Enterprise Operating System
 - The Linux Operating System
 - Getting Started with Linux

Today's Lecture

- Getting Started with Linux Continued

Working with the Shell

- Which Shell Are You Running?
 - You can identify the shell you are running by using the ps utility:

```
$ ps
```

PID	TTY	TIME	CMD
2402	pts/5	00:00:00	bash
7174	pts/5	00:00:00	ps

Working with the Shell ...

- Repeating/Editing Command Lines:
 - To repeat a previous command under bash or tcsh, press the UP ARROW key.
 - Each time you press this key, the shell displays an earlier command line.
 - To re-execute the displayed command line, press RETURN.
 - Press the DOWN ARROW key to browse through the command lines in the other direction.

su/sudo: root privileges

- UNIX and Linux systems have always had a privileged user named root.
- When you are working as the root user (“working with root privileges”), you have extraordinary system-wide powers.
- A user working with root privileges is sometimes referred to as Super user or administrator.

su/sudo: root privileges ...

- Under a conventional setup, you can gain root privileges in one of two ways.
 - First you can log in as the user named root; when you do so you are working with root privileges until you log off.
 - Alternatively, while you are working as yourself, you can use the su (substitute user) utility to execute a single command with root privileges or to gain root privileges temporarily so you can execute several commands.

su/sudo: root privileges ...

The following example shows how to use su to execute a single command.

```
$ ls -l /lost+found
```

```
ls: cannot open directory /lost+found: Permission denied
```

```
$ su -c 'ls -l /lost+found'
```

```
Password: Enter the root password
```

```
total 0
```

```
$
```

```
$ su
```

```
Password: Enter the root password
```

```
# ls -l /lost+found
```

```
total 0
```

```
# exit
```

```
exit
```

```
$
```


su/sudo: root privileges ...

- Some distributions (e.g., Ubuntu) ship with the root account locked—there is no root password—and rely on the sudo utility to allow users to gain root privileges.
- The sudo utility requires you to enter *your password* (*not the root password*) to gain root privileges.
- The following example allows the user to gain root privileges to view the contents of the /lost+found directory:

```
$ sudo ls -l /lost+found
```

```
[sudo] password for sam: Enter your password
```

```
total 0
```

```
$
```

su/sudo: root privileges ...

- With an argument of `-i`, `sudo` spawns a new shell running with root privileges.
- Typically the shell displays a hash pound sign (`#`) prompt when you are working with root privileges.
- Give an exit command to return to the normal prompt and non-root privileges.

Where to Find Documentation

- The --help Option
- man: Displays the System Manual
- info: Displays Information About Utilities
- apropos: Searches for a Keyword
 - Often a wrapper for the "man -k" command

Readings

- Chap # 2 of TB1

Quiz: next Lecture

- From Lab2 and Chap 2 TB1

Homework 1

- “Exercises” and “Advanced Exercises” section in Chap # 2 of TB1 (page no. 44).
- To be submitted on LMS
- Due next week

References:

- Wikipedia
- Chapter 2 of Textbook no. 1