

# Using the Terminal

Lab 3

- *"Under Linux there are GUIs (graphical user interfaces).*
  - *where you can point and click and drag, and hopefully get work done without first reading lots of documentation.*
- *The traditional Unix environment is a CLI (command line interface)*
  - *where you type commands to tell the computer what to do. That is faster and more powerful, but requires finding out what the commands are."*

# What is the Terminal

- There are many varieties of Linux, but almost all of them use similar commands that can be entered from a **command-line interface terminal**.
- The Terminal = command line interface = shell that gives command to the OS.
- A "shell" is a program which interprets commands so that the operating system can understand them.
- the use of the shell can be quicker than a graphical method.
- Ubuntu uses **bash** as its default shell.

# What is BASH?

- BASH = Bourne Again Shell
- BASH is a shell written as a free replacement to the standard Bourne Shell which is written by Steve Bourne for UNIX systems.
- It has all of the features of the original Bourne shell, plus additions that make it easier to program with and use from the command line.
- Since it is Free Software, it has been adopted as the default shell on most Linux systems.

# Most important benefits of the Command-Line/Terminal

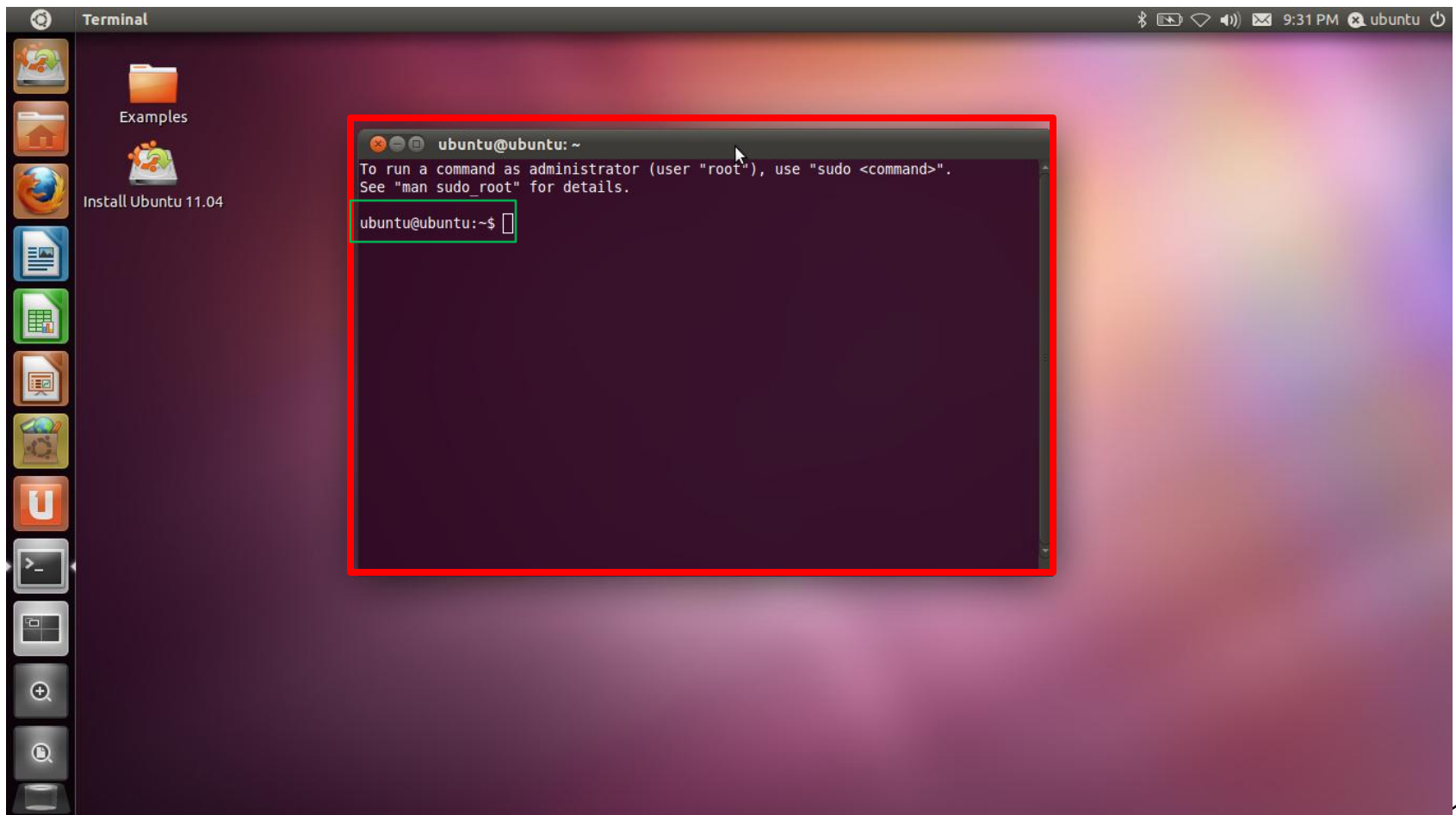
- Faster.
- the terminal is almost universal across Linux distributions and is definitely universal across different flavors of Ubuntu.

# Starting a Terminal

- **Ubuntu logo -> More Apps -> 'See More Results' (in upper left) -> Terminal**
- **Ubuntu logo -> More Apps -> all Applications (in upper right) -> Accessories -> Terminal**
- **Ubuntu logo -> type Terminal in Search**
- **Keyboard Shortcut: Ctrl + Alt + T**

# Shell Prompt Terms

- terminal window
- shell prompt
- command line
- Shell



# **terminal window**

The terminal window is the window that contains the shell prompt, command line, and output from the shell.

# shell prompt

- The shell prompt is the marker on the screen that shows where the command line should be placed. The following is an example of a shell prompt:

**UserName@ComputerName:~\$**

@ to separate UserName from ComputerName.

: colon to separate the computer name from the directory.

~ tilde to represent your home directory.

\$ to terminate the prompt.

# command line

The command line is where options to a command are placed. The following is an example of a command line:

command -options *<filename>*

# Shell

- The shell is the program that interprets commands so that the operating system can understand them.

- The prompt ---→ the command you type ---→ Enter.
- The lines that follow show the output that results from the command.
- NOTE:  
command may have options:  
**command -options**

# Checking your login session

- Login Identity includes:

*user name, group name, user ID, and group ID.*

- To find out information about your identity:

```
$ id
```

```
uid=501(chris) gid=105(sales) groups=105(sales), 4(adm), 7(lp)
```

- Linux keeps track of login session:

```
$ who -umH
```

| NAME  | LINE | TIME         | IDLE | PID COMMENT |
|-------|------|--------------|------|-------------|
| chris | tty1 | jan 13 20:57 | .    | 2013        |

| -u | <p>List only those users who are currently logged in.</p> <p><b>The name</b> is the user's login name.</p> <p><b>The time</b> is the time that the user logged in.</p> <p><b>The idle</b> column contains the number of hours and minutes since activity last occurred on that particular line.</p> <p>A dot (.) indicates that the terminal has seen activity in the last minute and is therefore ``current".</p> <p>If more than twenty-four hours have elapsed or the line has not been used since boot time, the entry is marked old.</p> <p>This field is useful when trying to determine whether a person is working at the terminal or not.</p> |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -m | Output only information about the current terminal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| -H | Output column headings above the regular output.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

# File & Directory Commands

- The tilde (~) symbol stands for your **home directory**.
- If you are *user*, then the tilde (~) stands for */home/user*

# File & Directory Commands

- To find out what your current directory is "print working directory":

```
$ pwd  
/usr/bin
```

- To find out the name of your home directory:

```
$ echo $HOME  
/home/chris
```

- When you open a terminal you will be in your home directory.
- cd "change directory"
- To get back to your home directory:

```
$ cd
```

- To change the current directory to the directory that you choose:

```
$ cd /etc  
$ cd /
```

# File & Directory Commands

- To list the contents of the current directory:

permissions

User

The user that owns the file, or directory

Size

The size in bytes

Date

The date of last modification

```
$ ls -al /home/chris
```

|            |     |       |       |      |        |       |               |  |
|------------|-----|-------|-------|------|--------|-------|---------------|--|
| total      | 158 |       |       |      |        |       |               |  |
| drwxrwxrwx | 3   | chris | sales | 1024 | May 12 | 13:55 | .             |  |
| drwxr-xr-x | 3   | root  | root  | 1024 | May 10 | 01:49 | ..            |  |
| -rw-----   | 1   | chris | sales | 2204 | May 18 | 21:30 | .bash_history |  |
| -rw-r--r-- | 1   | chris | sales | 24   | May 10 | 01:50 | .bash_logout  |  |
| -rw-r--r-- | 1   | chris | sales | 230  | May 10 | 01:50 | .bash_profile |  |

Directories

This field specifies the number of links or directories inside this directory.

Group

The group that file belongs to,

Directory or File

The name of the file or directory.

# File & Directory Commands

- To list files across the page, separated by commas:

```
$ ls -m
```

- To list the contents of subdirectories:

```
$ ls -aR
```

- List the contents of your home directory

```
$ ls ~
```

- List the contents of your root directory

```
$ ls /
```

# File & Directory Commands

| -a | Shows you all files, even files that are hidden (these files begin with a dot.)            |
|----|--------------------------------------------------------------------------------------------|
| -l | Shows you huge amounts of information (permissions, owners, size, and when last modified.) |
| -m | Stream output format; files are listed across the page, separated by commas.               |
| -R | Includes the contents of subdirectories.                                                   |

# Close the Terminal

- Close button
- Enter exit command.
- Ctrl+D