

Introduction to Linux

Comp 1002/1402

On-line help

- SCS help webpage:
<http://www.scs.carleton.ca/help>
- “Getting Started with Unix” link
- Work from home:
 - Putty
 - Winscp

term, shell, console

- Operating System != operating environment
- GUI Environment (Gnome, KDE,...)
- Shell=Command Prompt(sh, csh, ksh, bash)
- Even GUI's allow term, xterms...

Your account & files

- You have an account
and a corresponding “home directory”
- Hierarchical file structure stems from /
- ~ is your account
- ~<username> is someone else's

Help from the prompt

To get a “manual entry” type:

`man <item>`

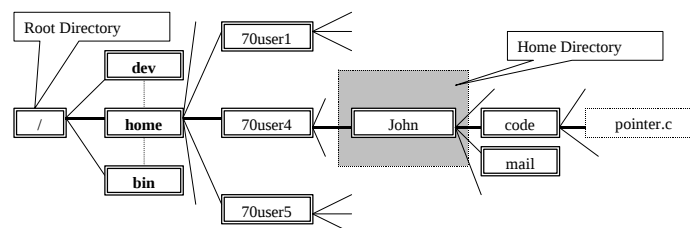
At the command prompt

e.g.,

`man man`

Tells you more about the man command

Files and Directories



Users & Groups

- Every user has a unique id (login id)
- Every user can also belong to a group
- Your id and your groupid are important
- They enable security

File Ownership

- Every file and directory has an owner
- Usually the creator of the file!
- The owner can decide who can:
 - Read, Write and Execute the file/directory

Access Permission

Read Permission

- Only allows reading not change

Write Permission

- File creation, modified or deleted

Execute Permission

- Execute file, open directory

Viewing permissions

list command with -l:

```
ls -l <filename(s)>
```

```
[abawjem@Sigma01> ls -l code
```

```
drwxr-xr-x 1 abawjem faculty 367 Sept 8 11:37  
code
```

Changing permissions

```
chmod a+rx pointer.c
```

(+ add) (– remove) (= only)

The permission groups are represented as shown in the table:

Permission	Symbol
Owner	u
Group	g
World	o
All of above	a

Changing permissions

Specify by binary decimal ...

```
chmod 421 pointer.c
```

```
chmod 630 pointer.c
```

```
chmod 766 pointer.c
```

Creating Directories

```
mkdir name
```

Current Working Directory

```
pwd
```

```
/usr/70user4/morrison/
```

List

`ls -la` (all files)

`ls -lc` (sort by change time)

`ls -lh` (size of file in Kb)

Deleting files

Careful there is no undelete!

`rm myfile`

`rm -f myfile`

`rm -rf myfile`

`rm -i myfile`

Removing Directories

```
rmdir <name>
```

Must be empty!

Copying files

```
cp source destination
```

```
cp -R source destination
```

Rename files

```
mv source destination
```

Cat

```
cat file1  
cat file1 file2
```

Displays files to Standard Out

More/less

```
more file.txt
```

“space” advances a screen

“return” advances a line

b to backup a screen

h to see all commands

q to exit

Redirection

- Standard Input is from keyboard
- Standard Output is the monitor
- Able to change this!
command < infile > outfile
command < infile
command > outfile
command >> outfile

Pipes

- Output of one command “piped into” another

`command1 | command2`

Wildcards

A group of files may be accessed using wildcards

<code>*</code>	matches everything
<code>ls g*</code>	lists all files beginning with g
<code>ls go.*</code>	lists all files named go with any extension
<code>ls *</code>	lists all files

Introduction to Editing

- How to edit a text file in linux?

Most primitive:

```
cat > file
```

Type results end with ^d

Editing files

- Several programs available to edit with:
 - pico
 - basic editing only
 - Unix ver. of notepad
 - Terminal only
 - emacs
 - More advanced editor
 - GUI and terminal versions
 - Can be memory intensive

Editing Files

- The other alternative:
 - vi (alternate versions: vim gvim)
 - Available on most systems
 - “strange” to use first time
 - very powerful editor
 - We will briefly cover vi in this course

vi Modes

- The vi editor has two modes of operation:
 - Command mode
 - Edit mode
- Command mode:
 - Executes commands like
 - Go to a specific line, delete characters words lines
 - Search for a phrase, Begin editing

vi mode

- When you are in Command mode type:
 - I to begin inserting text
 - A to begin inserting textThese two will switch you to edit mode!
- Done editing? Hit “Esc” key to command

vi commands

- x delete a character
- dd delete a line
- dw delete word
- :w write the file
- :q quit
- :q! quit without saving
- :r read existing file

vi commands

- Moving inside the text is a command!
 - j is down
 - k is up
 - h is left
 - l is right