

LINUX Tutorial 2

Linux Help Files: The “manpages”

All the basic commands covered in this class have help files for them. These are called the "manpages" because they are associated with the man command. To start viewing a man page, give the following command:

```
man ls
```

This will bring up one or more pages of information on the “list directory contents” command.

Use the **spacebar** (or **pagedown**) key to scroll down the page and the **b** key (or **pageup**) to go back a page.

To exit the manpage viewer, hit the **q** key.

Sometimes, especially with larger results, the manpages can feel a little bit clunky or hard to navigate.

<https://linux.die.net/> provides a searchable online database for most manpages.

Editing Text In Linux: Vim

All of your programs for CMPS 2010 and 2020 will be created by writing a simple text file that contains your source code. The easiest way to do this is to issue a text editor command to start a text editor program. On Odin, the best text editor for creating your source code is the vi or vim (**v**isual editor **i**mproved) text editor.

This editor may seem a little intimidating at first, but it has many benefits, including color-coded syntax highlighting and automatic code indentation. All students are strongly encouraged to learn basic vi/vim commands.

The most important thing to understand about Vim is the concept of modes.

Even though you will mostly be using insert mode, there are four main modes you should be aware of:

1. **NORMAL MODE**

By default Vim starts in “normal” mode. You can switch to normal mode at any time by pressing the **Esc** key. In normal mode key presses do not insert text as you might expect. Instead, keystrokes act as “actions” that can be performed.

2. **INSERT MODE**

This is the second most used mode, and will be the mode that you will probably be the most familiar with. Once in insert mode, typing inserts characters into the document just like a regular text editor. You can switch to insert mode (from normal mode) by pressing the **i** key.

3. **COMMAND MODE**

Command mode has a wide variety of commands and can do things that normal mode can't do as easily (like saving your files and exiting Vim). You can switch to command mode (from normal mode) by pressing the **:** key. You will notice a colon character appear in the bottom left corner along with a cursor where you can type your command.

4. **VISUAL MODE**

Visual mode is used to make selections of text, similar to how clicking and dragging with a mouse behaves. Selecting text allows commands to apply only to the selection, such as copying, deleting, replacing, etc. You can switch to visual mode (from normal mode) by pressing the **v** key.

Important Vim Commands

From Linux:

<code>vi</code>	Open vim with no filename. You will need to provide a filename later to save your file.
<code>vi <filename></code>	Open a new or existing file with the provided filename.

Vim In Normal Mode:

<code>h</code> or <code>←</code>	Move left
<code>j</code> or <code>↓</code>	Move down
<code>k</code> or <code>↑</code>	Move up
<code>l</code> or <code>→</code>	Move right
<code>w</code>	Move to the beginning of next word
<code>W</code>	w + whitespace
<code>e</code>	Move to the end of word
<code>E</code>	e + whitespace
<code>b</code>	Move to previous word
<code>B</code>	b + whitespace
<code>^</code>	Move to the start of the line
<code>\$</code>	Move to the end of the line
<code>gg</code>	Move to the start of the document
<code>shift+g</code>	Move to the end of the document
<code>=</code>	Reindent current line
<code>yy</code>	Copy current line
<code>dd</code>	Cut current line
<code>p</code>	paste
<code>u</code>	Undo last change
<code>ctrl+r</code>	Redo

Vim In Command Mode:

<code>:w</code>	Save current document
<code>:q</code>	Quit Vim
<code>:wq</code>	Save and quit Vim
<code>:q!</code>	Force quit without saving
<code>:n</code>	Jump cursor to line number n
<code>/foo</code>	Search for word foo in document
<code>:%s/x/y/g</code>	Find all x and replace with y

Switching Modes (from Normal):

<code>i</code>	Insert mode at cursor
<code>o</code>	Insert mode on next line
<code>v</code>	Visual mode
<code>shift+v</code>	Visual line mode
<code>ctrl+q</code>	Visual block mode
<code>shift+i</code>	Insert block mode

Basic File Manipulation

There are a number of important commands for manipulating files in Linux (we'll learn about directories in the next lab). All of the following commands are EXTREMELY important to learn and understand, as you will be using them almost every day:

<code>ls</code>	Lists all the files in your current directory
<code>ls -a [filename]</code>	Lists hidden files (filenames beginning with . are hidden, such as .bashrc)
<code>ls -l [filename]</code>	Gives detailed file information, such as size and permissions
<code>cat <filename></code>	Prints the contents of a file with no paging
<code>less <filename></code>	Prints the contents of a file with paging
<code>cp <source> <destination></code>	Copies the source file to the destination file, leaving the source file intact
<code>mv <current_name> <new_name></code>	Renames/moves a file from the current filename to the new filename.
<code>rm <filename></code>	Deletes a file. Note: there is NO undelete command (or recycle bin), so be VERY SURE you want to delete a file before using this command.

Using Email In Odin: Alpine

Your Odin email address is used by Computer Science faculty to communicate with you. You will also use your email account to submit assignments to the instructor. This is a full-fledged email account, so you can also use it to email anyone on the Internet. Odin is the primary email exchange server for the cs.csub.edu domain. Thus, your Odin email address is: <username>@cs.csub.edu

The supported email client on Odin is **alpine**.

The most commonly used commands in alpine are:

C	Compose a new email message
L	List your mail folders
I	Go into your inbox
M	Go to the main menu
Q	Quit alpine and go back to linux command line
Enter Key	Select the currently highlighted item
Arrow Keys	Move the cursor to highlight another item
, or < Keys	Go back one level