

# Linux System Administration

## AfNOG 2012

### Exercises: Editing

#### vi Cheat Sheet

##### Open:

|                   |   |
|-------------------|---|
| vi filename       | (fn=filename)   |
| vi -r filename    | Recover a file from a crashed session                   |
| vi + filename     | Place the cursor on last line of file.                  |
| vi +n filename    | Place the cursor on line "n" of file.                   |
| vi +/pat filename | Place cursor on line with first occurrence of "pat"tern |

##### Close:

|      |  |
|------|--|
| :w   | Write the file to disk. Don't exit.                |
| :w!  | Write the file to disk even if read/only.          |
| :wq  | Write the file to disk and exit.                   |
| :wq! | Write the file to disk even if read/only and quit. |
| :q   | Quit the file (only if no changes).                |
| :q!  | Quite the file even if changes.                    |

##### Movement:

|    |   |
|----|---|
| A  | Move to end of line, change to insert mode. |
| h  | Move 1 space backwards (back/left arrow).   |
| j  | Move down 1 line (down arrow).              |
| k  | Move up 1 line (up arrow).                  |
| l  | Move 1 space forwards (forward/right arrow) |
| w  | Move cursor to start of next word.          |
| W  | Same as "w".                                |
| b  | Move cursor to start of previous word.      |
| B  | Same as "b".                                |
| :n | Go to line number "n" in the file.          |

##### Editing:

|    |   |
|----|---|
| i  | Enter in to input mode.                             |
| o  | Add a line below cursor and enter in to input mode. |
| x  | Delete character (del key in some cases).           |
| D  | Delete line from right of cursor to end of line.    |
| dd | Delete entire line.                                 |
| u  | Undo last edit or restore current line.             |
| p  | Put yanked text before the cursor.                  |
| yy | Yank current line.                                  |

##### Searching:

|          |   |
|----------|---|
| /pattern | Search for "pattern" in the file going forwards.    |
| ?pattern | Search for "pattern" in the file going backwards.   |
| n        | Find the next occurrence of pattern found forwards. |
| N        | Find next occurrence of pattern found backwards.    |

##### Copy/Cut and Paste

|      |  |
|------|--|
| nyp  | Copy n lines to buffer, paste below cursor         |
| nyP  | Copy n lines to buffer, paste above cursor         |
| nddp | Cut n lines and copy to buffer, paste below cursor |
| nddP | Cut n lines and copy to buffer, paste above cursor |

## 1.) PRACTICE USING vi

### Remember The vi editor uses "modes"

The easiest thing to do if you get confused in vi is to press the ESCape key a couple of times and start over with what you were doing.

To begin log in or use a terminal with your *sysadm* user already logged in and do:

```
$ cd
$ vi temp.txt
```

vi wil create the file "temp.txt" for you.

Press the "i" key to switch to input mode.

Type something like, "VI is great! I think I'll be using vi from now on instead of Word"

Press <ENTER> to add lines.

Type some more text

Save the file that you are in. To do this do:

Press the ESCape key for command mode

Type ":wq" to save and quite the file (notice the ":" before the "wq"!).

Copy a large file to your home directory so that you can play around with some more vi commands. We'll copy over your /etc/defaults/rc.conf file for this exercise. To do this do:

```
$ cd
$ cp /etc/sysctl.conf sysctl.conf.bak
```

Edit the file, but let's start at the bottom of the file:

```
$ vi + sysctl.conf.bak
```

Go to the first line of the file. Notice the colon (":") before the "1".

```
:1
```

Go to line 10, add a new line, and add in some text:

```
:10
Press the "o" key
```

Add the following text:

```
##
## A sample comment
##
```

Delete the three lines you just created:

Move to the first line of new text  
Press the ESCape key  
Press "dd" to delete a line, repeat until the text is gone

Save the file, but don't exit.

```
:w  
press <ENTER>
```

Practice copying and pasting text.

Go to line 10, copy 10 lines of text, go to the bottom of the file, place the text there:

```
ESC          (go to command mode)  
:12         (go to line 12 of the file)  
3yy        ("yank" 3 lines of text and place in copy buffer)  
G          (go to the end of the file)  
p          (place the contents of the copy buffer here)
```

If want to undo this you would type (in command mode):

```
u
```

Go to the top of the file, replace all occurrences of "mail" with "smtp", but prompt for each change:

```
ESC  
:1  
:%s/mail/smtp/gc
```

Say "yes" or "no" to a few prompts then escape from this mode by pressing ctrl-c and <ENTER>.

Go to line 1, search for "kernel", move to the end of the line, add some text:

```
ESC  
:1  
/kernel  
SHIFT-A  
"text here"  
ESC
```

Now let's exit from the file and *not* save the few changes we've made.

```
:q!
```

## 2.) PRACTICE, PRACTICE, PRACTICE

As you should be able to see vi is *extremely* powerful as an editor, but not necessarily intuitive. The best way to get good at using vi is to practice.

Make sure you are logged in as *sysadm*, then do the following:

```
$ cd
```

```
$ vi sysctl.conf.bak
```

In this file practice some of the following items:

Moving around:

By word

End of line

Start of line

Top of file

Bottom of file

To an absolute line number

Copying and pasting multiple lines (use vi commands)

Copying and pasting single lines (use vi commands)

Copying and pasting multiple lines (use your mouse buffer)

Copying and pasting single lines (use your mouse buffer)

Search for items backwards and forwards

Replacing text

And, anything else you wish to practice.

**3.) REPEAT EXERCISES 1 and 2 USING another editor, like *ee*, *joe* or *nano*.**