



Linux System Administration

Getting started with Linux



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Day 1: Modules

1. Linux overview
2. Command Line Interface or the “CLI”
3. Permissions
4. Editors
5. Ubuntu Linux and more commands



Module 4: Editors

Goals

- Be able to edit a file using vi
- Use some of vi's more advanced features
- Begin to understand the “language” of configuration files
- Use alternate editors: ee, joe, pico, nano, emacs, xemacs, gedit, etc.



vi Philosophy

- It's available!
- Wait, what was that? Oh yeah, it's available!
- It's has some very powerful features.
- It's ubiquitous in UNIX and Linux (`visudo`, `vipw`, `vigr`, etc.)
- Not that hard to learn after initial learning curve.
- Impress your friends and family with your arcane knowledge of computers.

Why is vi “so hard to use”?

Like all things it's not really – once you are used to how it works.

The ***critical*** vi concept:

1. vi has two modes
2. These modes are ***insert*** and ***command***

Let's see how we use these...

vi command and insert modes

Swapping modes

- When you open a file in vi you are in *command mode* by default.
- If you wish to edit the file *you need to switch to insert mode first*.
- To exit *insert mode* press the ESCape key.
- If you get used to this concept you are halfway done to becoming a competent vi user.

vi insert mode

Two common ways to enter insert mode upon opening a file include:

- Press the “i” key to start entering text directly after your cursor.
- Press the “o” key to add a new line *below* you cursor and to start adding text on the new line.
- Remember, to exit *insert mode* press the ESCape key at any time.

vi command mode

Many, many commands in vi, but some of the most common and useful are:

- Press “**x**” to delete a character at a time.
- Press “**dd**” quickly to press the line you are on.
- Press “/”, and text to search for and press <ENTER>.
 - Press “n” to find the next occurrence of text.
 - Press “N” to find previous occurrences of text.

Saving a file or “How to exit vi”

1. In vi press the *ESC*ape key to verify you are in command mode.
2. Depending on what you want to do press:
 - **:w** → write the file to disk
 - **:wq** → write the file to disk, then quit
 - **:q** → quit the file (only works if no changes)
 - **:q!** → quit and lose any changes made
 - **:w!** → override r/o file permission if you are owner or *root* and write the file to disk.
 - **:w!q** → override r/o file permission if you are owner or *root* and write the file to disk and quit.

Speed-Up your config file editing!

1. In vi press the *ESC*ape key to verify you are in command mode.
2. To search for the first occurrence of something:
 - **/string** → press <ENTER>
 - **"n"** → press "n" for each following occurrence
 - **"N"** → press "N" for each previous occurrence
3. To replace *all* occurrences of a string in a file:
 - **:%s/old_string/new_string/g**
4. To replace *all* occurrences of a string in a file (confirming each one):
 - **:%s/old_string/new_string/gc**

Speed things up some more!

1. In vi press the *ESCape* key to verify you are in command mode.
2. Go directly to a specific line number
 - **:NN** → press <ENTER>. If NN=100, go to line 100
3. Go to start/end of a line
 - press *Home* or press *End* on your keyboard
4. Go to top/bottom of a file:
 - press *ctrl-Home* or press *ctrl-End* on your keyboard
5. Undo the last change you made (in command mode)
 - press “u”

Configuration file patterns

There are patterns to how configuration files work:

- The most common comment character is “#”.
- After that you'll see “/* */” or “//”.
- There are a few others, but they are less common.

Editing configuration files cont.

Some configuration files have lots of comments and few directives. Others are the opposite.

Blocks of configuration may be indicated in a programmatic manner, i.e.:

```
<VirtualHost *>
```

```
<SubSection>
```

```
directive
```

```
directive
```

```
</SubSection>
```

```
</VirtualHost>
```

Editing configuration files cont.

Another standard is to do the following:

```
## comment
```

```
## comment
```

```
# default setting=off
```

To change the default do:

```
default setting=on
```

Editing configuration files cont.

Things to watch out for:

- Spaces
- Quotes and single quotes: “directive” or 'directive'
- Caps or CamelCase syntax
 - Localhost=“myhost”
 - LocalHost=“myhost”
- Line end indicator (: or ;)
- New-line or continuation character “\”.

Other editors

ee

- ESC brings up the editor menu
- Cursors work as you expect

jed

- F10 brings up the editor menu
- Cursors work as you expect

joe

- Ctrl-k-h brings up the editor menu
- Ctrl-c aborts
- Cursors work as you expect

Conclusion

vi's most confusing feature is that it works in two modes and you must switch between them.

Questions?

There's More

But, hopefully enough to get us started...

Some Resources

<http://www.ubuntu.com>

<http://ubuntuforums.org>

<http://www.debian.org>

<http://ubuntuguide.org>

<http://en.wikipedia.org/wiki/Debian>

[http://en.wikipedia.org/wiki/Ubuntu_\(Linux_distribution\)](http://en.wikipedia.org/wiki/Ubuntu_(Linux_distribution))

GIYF (Google Is Your Friend)