

Editing, vi and Configuration Files

Introduction to Unix

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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 ee as an alternate editor

Some of our philosophy about vi

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

A bit about ee

- The ee editor is available in the base install of FreeBSD.
- ee is available in single user mode in FreeBSD.
- ee is easier to use for most people than vi, but it is not as powerful (author's opinion).
- ee is a full-screen, single mode editor. That is, it works as you expect

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

There are 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.

Editing configuration files

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 character “\”.

Editing configuration files cont.

Don't forget

- 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 “\”.

Conclusion

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

Questions?