

Getting Started with bash

Some definitions first ...

Shell

From - An Introduction to Linux - by Machtell Garrels

“A shell can best be compared with a way of talking to the computer, a language. Most users do know that other language, the point-and-click language of the desktop. But in that language the computer is leading the conversation, while the user has the passive role of picking tasks from the ones presented. It is very difficult for a programmer to include all options and possible uses of a command in the GUI-format. Thus, GUIs are almost always less capable than the command or commands that form the backend.

The shell, on the other hand, is an advanced way of communicating with the system, because it allows for two-way conversation and taking initiative. Both partners in the communication are equal, so new ideas can be tested. The shell allows the user to handle a system in a very flexible way. An additional asset is that the shell allows for task automation.”

Console, Terminal or X-Terminal ?

A console is generally used for the system console, where the administrator logged on to the system in a secure environment.

A Terminal is generally a public access command line console, with no special privileges.

An Xterm is an emulated terminal running under X-Windows.

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The *bash* shell ..

The most common default command line interpreter (CLI) for Linux.

Very flexible and powerfull programming language.

The *bash* prompt ..

By default is \$ for unprivileged users, # for root., and shows that the shell is ready to accept a command.

You can customise the prompt.

For example:

```
[fred@localhost ~] $
```

Here, we will assume the prompt is simply \$

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The basic loop – how the shell works

The shell displays a prompt to show it is ready to accept a command
The user types in an command and presses the Enter key
The shell carries out the command or gives an error message
The shell displays the prompt again

Running more than one command in a sequence

Using a pipe ..

```
$ rpm -qa | more
```

```
$ rpm -qa | sort | more
```

Using a semicolon ..

```
$ cd /usr/share/doc; ls -lh a* | more
```

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Basic commands — once over lightly

pwd – print working directory

```
$ pwd  
/home/fred
```

ls – list files

```
$ ls  
bookmarks.html*  Download/  mpc-logo.png  nslig-Mar09/  tmp/  
Desktop/         glom-dbs/  mpclogox.gif*  Pictures/      Videos/  
Documents/      lstamp    Music/         Templates/
```

cd - change (working) directory

```
$ pwd  
/home/fred
```

```
$ cd Documents
```

```
$ pwd  
/home/fred/Documents
```

```
$ pwd  
/home/fred/Documents
```

```
$ cd ..
```

```
$ pwd  
/home/fred
```

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cp – copy one or more files to another directory

```
$ cp bookmarks.html Documents
```

```
$ cp -v bookmarks.html Documents  
'bookmarks.html' -> 'Documents/bookmarks.html'
```

mkdir – make directory

```
$ mkdir misc-docs
```

mv – move or rename a file or directory

```
$ mv misc-docs misc-linux-docs
```

```
$ mv misc-linux-docs Documents
```

touch – create a zero length file

```
$ touch test.txt
```

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df – show disk space bash

```
$ df -h
```

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/sda1	4.9G	2.8G	1.8G	61%	/
/dev/sda5	4.9G	3.3G	1.6G	69%	/home

rm and rmdir – remove files and/or directories

```
$ rm test.txt
```

```
$ rm -i misc-linux-docs/test.txt
```

```
rm: remove regular empty file test.txt ?
```

```
$ rmdir misc-linux-docs
```

echo – display on the screen

```
$ echo $PATH
```

```
/bin:/usr/bin:/usr/local/bin:/usr/games:/usr/lib/qt4/bin
```

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Some tips to make life easier ..

Using the mouse in an Xterm

Scenario: You are looking for some Release notes or similar to get an idea of what the 'Eye of Gnome' (eog) application does. You start an Xterm, and use the rpm query option to get a list of files in the package.

```
$ rpm -ql eog | more
```

```
..  
/usr/share/doc/eog/README
```

```
..
```

You can double-click on the line `/usr/share/doc/eog/README` which will highlight it. At the prompt, type `more <space>` and then press the mouse scroll wheel and press enter.

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Tab completion

Pressing the tab key part way through a filename will add the rest of a unique filename to the command. If there are similar filenames, a second press on the tab key will display the alternative filenames.

Aliases ..

Briefly, aliases allow a string to be substituted for a word when it is used as the first word of a bash shell command. The shell maintains a list of aliases, and if the first word of a simple command has an alias it is replaced by the text of the alias.

To display all the currently set aliases, simply type alias at the prompt.

To set up an alias ..

```
$ alias cp='cp -iv'
```

To unset an alias

```
$ unalias cp
```