

– General Linux 2 –

Customise and Use the Shell Environment []

(Linux Professional Institute Certification)

a

```
.~.  
/V\    by: geoffrey robertson  
// \\\    geoffrey@zip.com.au  
@.__.@
```

\$Id: gl2.109.1.slides.tex,v 1.2 2003/08/29 14:36:14 waratah Exp \$

^aCopyright © 2002 Geoffrey Robertson. Permission is granted to make and distribute verbatim copies or modified versions of this document provided that this copyright notice and this permission notice are preserved on all copies under the terms of the GNU General Public License as published by the Free Software Foundation—either version 2 of the License or (at your option) any later version.

List of Slides

Shells, Scripting, Programming & Compiling

2.109.1 Customise and use the shell environment []

2.109.2 Customise or Write Simple Scripts []

Customise and Use the Shell Environment

Objective

Candidate should be able to customise shell environments to meet users' needs. This objective includes setting environment variables (e.g. PATH) at login or when spawning a new shell. It also includes writing bash functions for frequently used sequences of commands.

Customise and Use the Shell Environment

Key files, terms, and utilities

`~/.bash_profile`

`~/.bash_login`

`~/.profile`

`~/.bashrc`

`~/.bash_logout`

`~/.inputrc`

`function (Bash built-in command)`

`export`

`env`

`set (Bash built-in command)`

`unset (Bash built-in command)`

Bash Configuration Files

- When a user logs in to a `bash` shell the following configuration files are usually executed:

Bash Configuration Files

- When a user logs in to a `bash` shell the following configuration files are usually executed:

`/etc/profile` System wide profile, common to all users and shells

Bash Configuration Files

- When a user logs in to a bash shell the following configuration files are usually executed:

/etc/profile System wide profile, common to all users and shells

~/.bash_profile Executed after `/etc/profile` at login

Bash Configuration Files

- When a user logs in to a bash shell the following configuration files are usually executed:

/etc/profile System wide profile, common to all users and shells

~/.bash_profile Executed after `/etc/profile` at login

~/.bashrc Executed after `~/.bash_profile` at login

Bash Configuration Files

- When a user logs in to a bash shell the following configuration files are usually executed:

/etc/profile System wide profile, common to all users and shells

~/.bash_profile Executed after `/etc/profile` at login

~/.bashrc Executed after `~/.bash_profile` at login

- Note `~/.bashrc` is executed when any new bash shell is spawned

Bash Aliases

Bash Aliases

-

Bash Functions

- Functions work similarly to aliases but allow more complex constructions.

Bash Functions

- Functions work similarly to aliases but allow more complex constructions.
- They have the following syntax:

```
$ [ function ] NAME() { COMMAND_LIST; } ←
```

Bash Functions

- Functions work similarly to aliases but allow more complex constructions.

- They have the following syntax:

```
$ [ function ] NAME() { COMMAND_LIST; } ←
```

- Where

function Optional tag

NAME () The name of the function

COMMAND_LIST The body of the function

Bash Functions

- Functions work similarly to aliases but allow more complex constructions.

- They have the following syntax:

```
$ [ function ] NAME() { COMMAND_LIST; } ←
```

- Where

function Optional tag

NAME () The name of the function

COMMAND_LIST The body of the function

- Functions may be stored in `~/.bashrc`

Bash Functions

Function Example

- This simple function prints the current working directory and the list of files in it:

```
$ function look() { pwd; ls; } ←
```

Bash Functions

Function Example

- This simple function prints the current working directory and the list of files in it:

```
$ function look() { pwd; ls; } ←
```

- This function would be used like this:

```
$ look ←  
/home/geoffrey/lpic/general-linux-2/notes  
CVS      _whizzy_gl2.notes.fmt  
_whizzy_gl2.notes.pag
```

Bash Functions

Valid Function Definitions

Bash Functions

Valid Function Definitions

- `$ function look() { pwd; ls; }`

Bash Functions

Valid Function Definitions

- `$ function look() { pwd; ls; }`
- `$ function look { pwd; ls; }`

Bash Functions

Valid Function Definitions

- `$ function look() { pwd; ls; }`
- `$ function look { pwd; ls; }`
- `$ look() { pwd; ls; }`

Bash Functions

Valid Function Definitions

- `$ function look() { pwd; ls; }`
- `$ function look { pwd; ls; }`
- `$ look() { pwd; ls; }`
- `$ look()`
 `> {`
 `> pwd;`
 `> ls;`
 `> }`

Bash Functions

Invalid Function Definitions

Bash Functions

Invalid Function Definitions

- `$ function look() pwd; ls;`

Bash Functions

Invalid Function Definitions

- `$ function look() pwd; ls;`
- `$ look() { pwd; ls }`

Bash Functions

Invalid Function Definitions

- `$ function look() pwd; ls;`
- `$ look() { pwd; ls }`
- `$ function look() {pwd; ls;}`

Bash Functions

Example from Jeffrey Dean's Nutshell Book

Bash Functions

Example from Jeffrey Dean's Nutshell Book

- A function that uses a command line argument:

```
$ laps () { ←  
> ls -l $1  
> ps aux | grep '/usr/bin/basename $1'  
> }
```

Bash Functions

Example from Jeffrey Dean's Nutshell Book

- A function that uses a command line argument:

```
$ laps () { ←  
> ls -l $1  
> ps aux | grep '/usr/bin/basename $1'  
> }
```

- Use the `laps ()` function:

```
$ laps /usr/sbin/sshd ←  
-rwxr-xr-x    1 root    root          276200 Jun 29 01:28 /usr/sbin/sshd  
root          255  0.0  0.3   2792 1216 ?        S      Aug31   0:00 /usr/sbin/sshd  
geoffrey     1187  0.0  0.1   1332  424 pts/1    R      14:39   0:00 grep sshd
```

The End