

1.109.1

Customize and use the shell environment

Weight 5

Linux Professional Institute Certification — 102

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Topic 109 Shells, Scripting, Programming and Compiling [8]

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1.109.1 **Customise and use the shell environment [5]**

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Description of Objective

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Candidate should be able to customize 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.

Key files, terms, and utilities include:

- `~/.bash_profile` — sourced when a person logs in
- `~/.bash_login` — sourced when a person logs in if no `~/.bash_profile`
- `~/.profile` — sourced when a person logs in if no `~/.bash_profile` or `~/.bash_login`
- `~/.bashrc` — sourced when a non-login interactive shell starts
- `~/.bash_logout` — sourced when a person logs out
- `~/.inputrc` — allows a user to specify keystrokes for commands
- `function` — (Bash built-in command)
- `export` — make environment variables available to sub processes

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` sourced after `/etc/profile` at
login

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

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

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- ▶ 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`

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- ▶ 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
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Valid Function Definitions

- ▶ `$ function look() { pwd; ls; }`
- ▶ `$ function look { pwd; ls; }`
- ▶ `$ look() { pwd; ls; }`
- ▶ `$ look()`
 - > {
 - > pwd;
 - > ls;
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Example from Jeffrey Dean's Nutshell Book

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- ▶ 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
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