

# Customizing Your Shell Experience

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# Overview



## Describing shells

### Start up files for:

- Bash
- Z-Shell

### Statements in files for:

- Customizing the prompt
- Creating aliases
- Setting a default text editor



# Run Commands and Profiles

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# Louis Pouzan



**Wrote RUNCOM, 1963-64**

**Coined the term “shell”**

**Helped design first implementation**

**Also, invented the datagram**

# Shells in General

**Just another piece  
of software**

**Configurable  
through  
commands**

**System defaults  
and user level  
configuration**



# Interactive vs Non-Interactive Shells

## Interactive

Attached to the terminal (TTY)

Submit commands

See feedback

SSH or starting “Terminal”

## Non-Interactive

Not attached to the TTY

Cannot receive commands

Used to run scripts



# Login vs Non-login Shells

## Login

Part of the login process

SSH

Setup the shell and user's session

## Non-login

Setup the shell only

Starting "Terminal"



# Bash Config Files: Interactive Login

`/etc/profile`

`~/.bash_profile`

`~/.bash_login`

`~/.profile`

`~/.bash_logout`





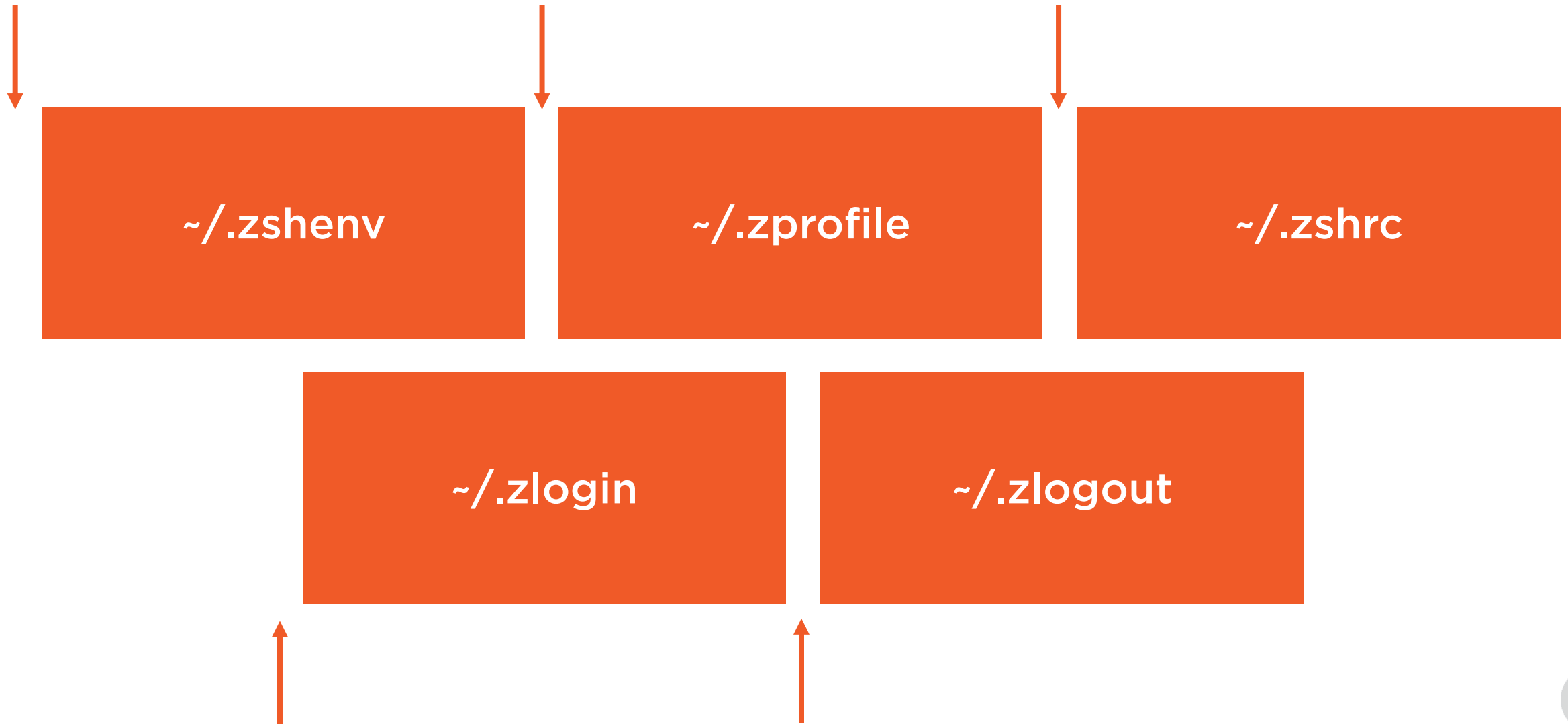
# Bash Config Files: Interactive Non-login

`/etc/bash.bashrc`

`~/.bashrc`



# Z-Shell Config Files: Interactive Login



# Z-Shell Config Files: Interactive Login

`/etc/zshenv`

`~/.zshenv`

`~/.zshrc`

`~/.zlogin`



# Z-Shell Config Files: Interactive Non-login

`/etc/zshenv`

`~/.zshenv`

`/etc/zshrc`

`~/.zshrc`



# Demo



## Configuration files

- Bash interactive login
- Z-Shell interactive login

## Change your login shell



# Example Shell Configurations

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# Ada Lovelace



**Sys-Admin at Carved Rock Fitness**

**Interesting past**



```
...  
  
export OUTPUTS=/home/ada/outputs  
  
export EDITOR=nano  
  
export VISUAL=$EDITOR  
  
alias webup="python3 -m carved_rock.webserver"  
  
alias ..="cd .."  
  
export PS1="\u@\h [\$(date +%k:%M:%S)]> "
```

# Ada's .bash\_profile

**Some lines omitted**

**Exports, aliases and prompt configuration**





...

```
export OUTPUTS=/home/ada/outputs
```

```
export EDITOR=nano
```

```
export VISUAL=$EDITOR
```

```
alias webup="python3 -m carved_rock.webserver"
```

```
setopt AUTO_CD
```

```
export PROMPT="%{?.%F{green}?%?.%F{red}?%?}%f %B%F{240}%1~%f%b %# "
```

# Ada's .zshrc

**Some lines omitted**

**Exports, alias, option and prompt configuration**



# Shell Prompts

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# Bash Shell Prompt

**PS1 variable**

**Interpreted string,  
with backslash  
escaped  
characters**

**Can also contain  
commands to  
evaluate**



# Bash Shell Prompt Example

```
export PS1="\u@\h [\$(date +%k:%M:%S) ] > "
```

Exporting a global variable called PS1 and opening the string

User @ hostname

Opening square brackets

Using \$( ) to resolve the “date” command

Closing the square brackets

Traditional right arrow, a space for clarity and closing the string



# Z-Shell Prompt

PROMPT variable

Interpreted string,  
with percentage  
escaped  
characters

Commands or  
logic to evaluate



# Z-Shell Prompt Example

```
PROMPT=%(? %F{green}?%?)%.%F{red}?%? %f %B%F{240} %1~%f%b %# "
```

A variable called PROMPT and opening the string

Opening a logic statement

True condition and false condition, separated by a dot

Reset the text foreground color to default

Start bold text

Set the foreground text color to grey

Show only the last element of the current working directory, with home as ~

Default the foreground text color, stop writing in bold

Show a # when root otherwise %, close the string



# Demo



## Shell prompt

- Bash
- Z-Shell



# Aliases

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```
alias short='the long command'
```

```
alias ..='cd ..'
```

```
alias ll='ls -lah'
```

```
alias ports='netstat -tulnp'
```

# Alias Examples

- ◀ Moving up a directory, without "cd"
- ◀ Long listing, hidden files and readable
- ◀ All open TCP and UDP ports



# Demo



Set an alias

Search command history



# Default Text Editors

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# Default Text Editors

Some commands  
require an editor

Default often used

Set the default  
through EDITOR  
and VISUAL  
variables



# Demo



## Set the default editor



# Review



Customize Bash and Z-Shell

System defaults

Users defaults

Alias

- Save time

Prompt

- Feedback

Default text editor

- Keep it familiar

