tmux

lctseng

What is tmux?

❑ terminal multiplexer

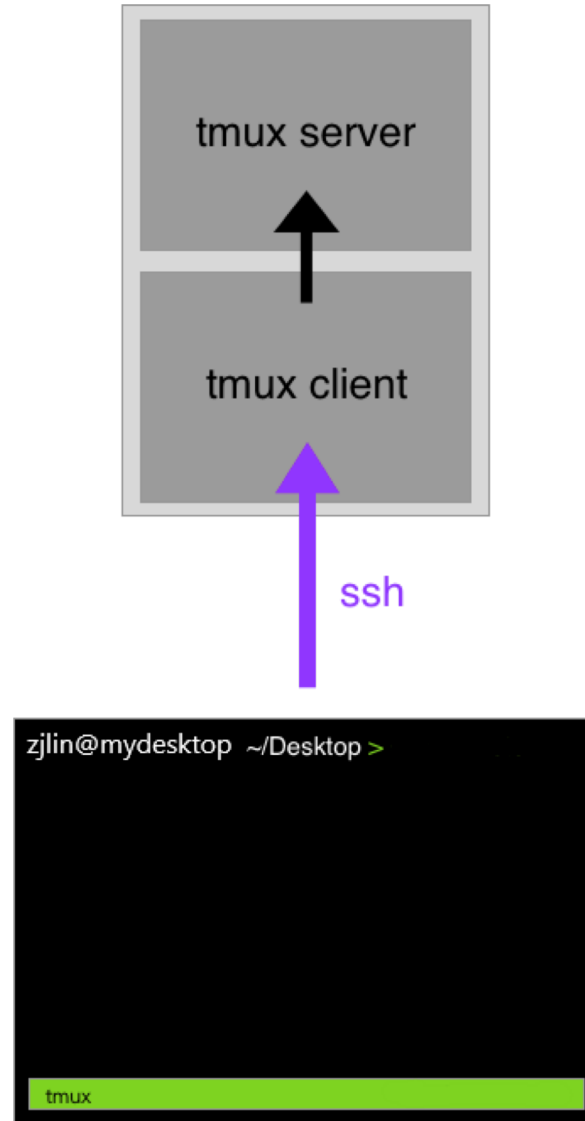❑ Allow open multiple tabs (multiple terminals)

What is tmux?

```
zjlin@nasa:~ %
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zjlin@nasa:~ %
```
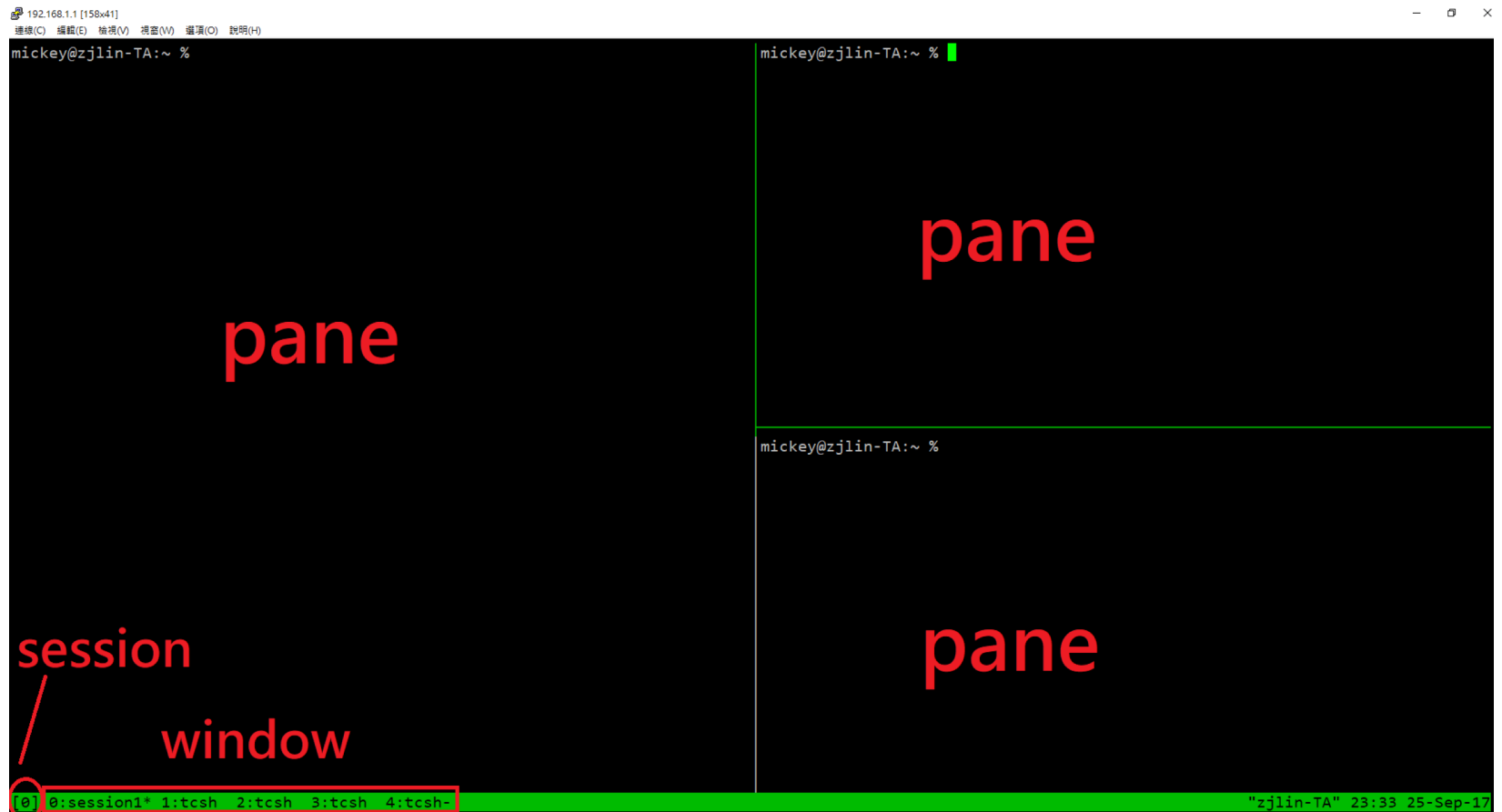
```
[0]  0:tcsh* 1:tcsh- 2:tcsh   3:tcsh   4:tcsh   5:tcsh   6:tcsh   7:tcsh
```
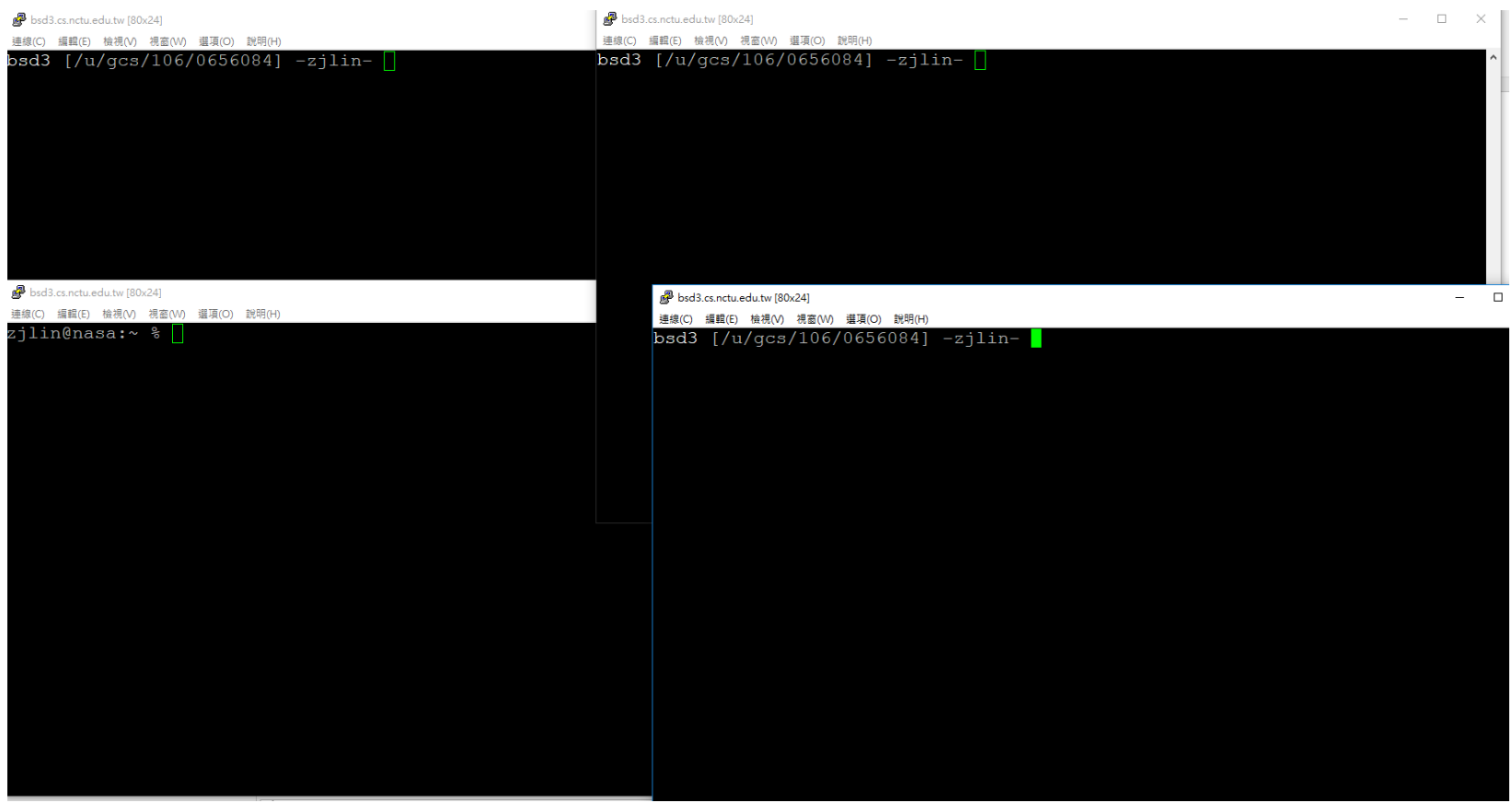
What is tmux?

What is tmux?

Why should I use tmux?

Why should I use tmux?

Why should I use tmux?

❑ Keep your working session alive

❑ By default, shell is terminated when connection is lost

- Including any programs/editors opened
- Any unsaved changes are discarded without warning

❑ tmux will not be terminated when connection is lost

- Attach to previous sessions!

FFFFFFF
FFFFFFF
FFFFF
FFFUU
UUUU
UUUU
UUUU
UUUU
UUUU-
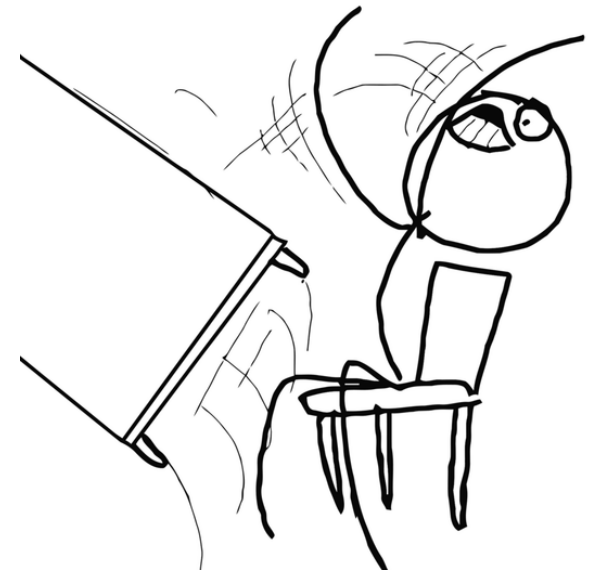
Example screenshot of tmux

https://github.com/lctseng/Unix-User-Config/blob/master/.tmux.conf

Advantages of tmux

❑ Multiple sessions, windows, panes

❑ Keep the sessions, attach/detach anytime

❑ Powerful window division (panes)

❑ Share screen by attaching to the same session

Start tmux

❑ tmux

❑ tmux attach [-t <number>]

❑ tmux detach

❑ tmux ls

❑ tmux kill-session [<number>]

tmux - session, window, pane

❑ session – browser

- You can open multiple sessions by opening lots of terminals

❑ window – tab

- One session can have multiple windows

❑ pane - split window

- A window can be split into multiple panes
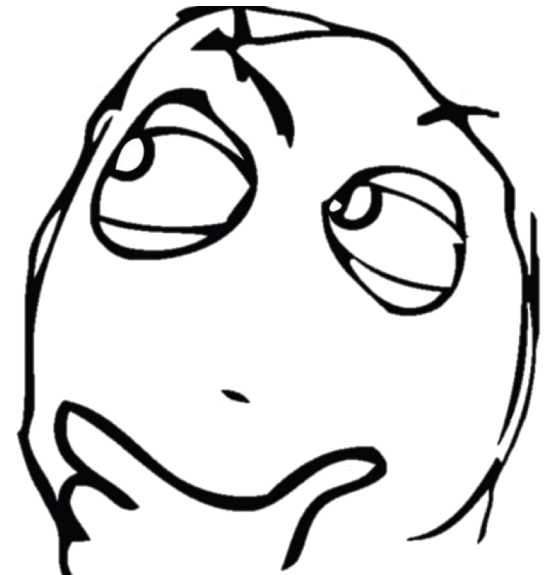
tmux - session, window, pane
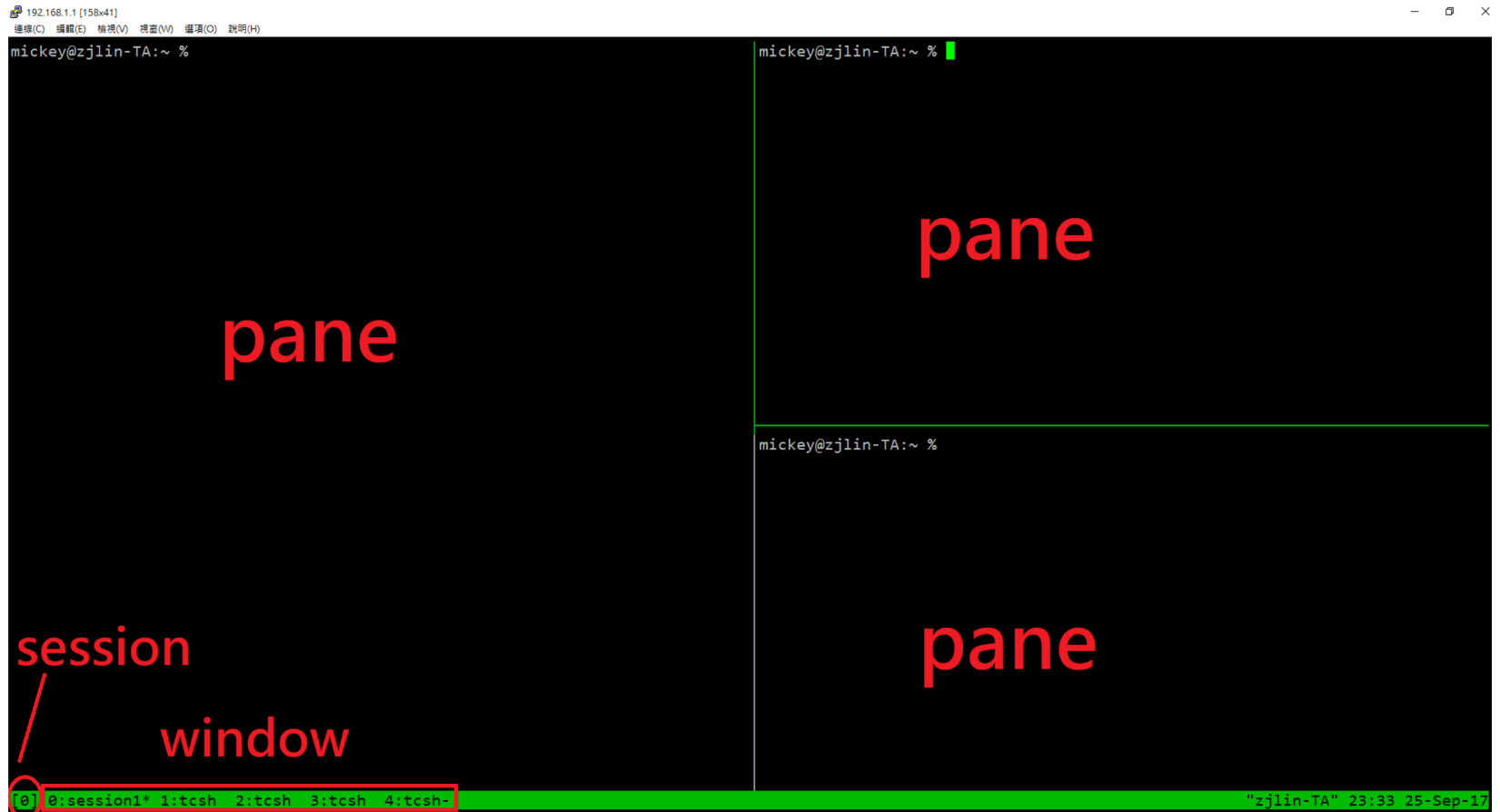
tmux 101

Basic operations and configurations
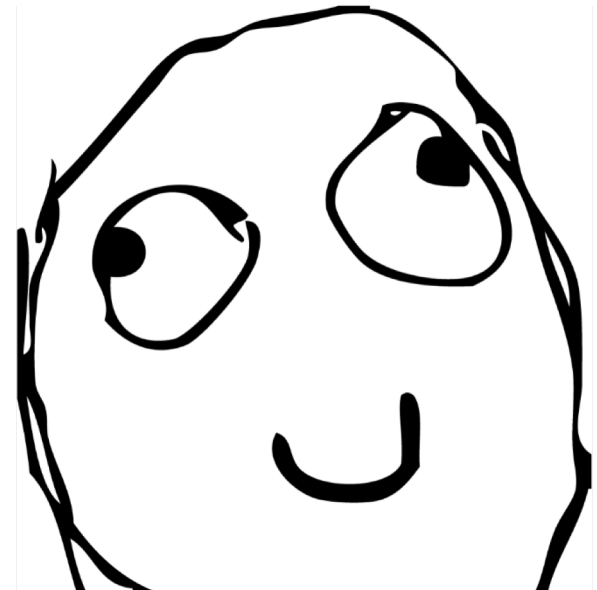
Session

❑ Create new session (open a new browser)

- Execute outside of any tmux sessions

- $ tmux

❑ Detach current session

- When attached in a session

- $ tmux detach

- Or close the terminal directly

❑ Attach to previous session

- $ tmux attach

- Attach only if previous sessions exist

Multiple sessions (1)

❑ Open multiple browsers

連線(C)　編輯(E)　檢視(V)　視窗(W)　選項(O)　說明(H)

```
(0) + 0: 5 windows (attached)
(1) + 1: 2 windows
```

`[0] 0:session1- 1:[tmux]  2:tcsh  3:[tmux]* 4:tcsh                      "zjlin-TA" 09:24 27-Sep-17`

Multiple sessions (2)

❑ Open multiple browsers

❑ List opened sessions

- $ tmux list-sessions

```
0: 1 windows (created Sun Jun 16 18:49:57 2019) [128x38]
1: 3 windows (created Sun Jun 16 18:50:03 2019) [128x38]
```

❑ Attach to previous session by id

- $ tmux attach -t session-id

tmux - bindkey

❑ Operations start with a special key combination

❑ Default is C-b

- Where C is Ctrl (control)

tmux - command

❑ Bindkey + :

❑ Open command prompt and execute tmux commands

Bindkey - window

bindkey (default is C-b) //C == control	**c**	**new-window**
	n	**next-window**
	p	**previous-window**
	l	**last-window**
	\<num\>	**select-window -t := \<num\>**
	&	**confirm-before -p "kill-window #W? (y/n)" kill-window**
	,	**command-prompt -I "#W" "rename-window '%%'"**
	.	**command-prompt "move-window -t '%%'"**

Bindkey - pane

bindkey (default is C-b) //C == control	**%**	**split-window -h**
	"	**split-window**
	arrow-key	**select-pane**
	alt+arrow-key	**resize-pane**
	x	**confirm-before -p "kill-pane #P? (y/n)" kill-pane**
	{	**swap-pane -U**
	}	**swap-pane -D**

tmux - bindkey

❑ bindkey + ?

Configuration - tmux.conf

❑ ~/.tmux.conf

❑ design yourself style

❑ colorful

Configuration - tmux.conf

❑ ~/.tmux.conf

```
 1 set -g status-utf8 on
 2 setw -g utf8 on
 3 # GENERAL SETTING
 4 bind-key r source-file ~/.tmux.conf; display-message "~/.tmux.conf is reloaded"
 5 set-window-option -g automatic-rename off
 6 set-option -g default-terminal "xterm"
 7 set-option -g prefix C-a
 8
 9 # STATUSBAR STYLE
10 # main
11 set-option -g status-bg colour236
12 set-option -g status-fg colour166
13 setw -g window-status-current-format "#I:#W#F"
14 setw -g window-status-current-fg colour215
15
16 #left
17 set-option -g status-left ''
18 set-option -g status-left-length 0
19
20 #right
21 set-option -g status-right "#h [%Y-%m-%d %H:%M]"
22 # BIND KEY
23 bind -n F8 previous-window
24 bind -n F9 next-window
25 bind -n F10 last-window
26 bind -n M-Right next-window
27 bind -n M-Left previous-window
~
~
~
~"~/.tmux.conf" 27L, 698C
~0:tbsd21  1:csduty* 2:cshome  3:csschedule- 4:bsd3  5:jail  6:nasa  7:jsh
```

Configuration - bindkey

❑ ~/.tmux.conf

- bind-key (alias: bind)
- C (alias: <Ctrl>)
- M (alias: <Alt>)

❑ bind-key <key> <command>

- -T key-table (default table is prefix)
- -n : alias for -T root   ➜ don't need to press C-b first
- -r : repeat

```
22 # BIND KEY
23 bind -n F8 previous-window
24 bind -n F9 next-window
25 bind -n F10 last-window
26 bind -n M-Right next-window
27 bind -n M-Left previous-window
```

Configuration - set

❑ ~/.tmux.conf

- set-window-option (alias: setw)

```
 1 set -g status-utf8 on
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 3 # GENERAL SETTING
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 5 set-window-option -g automatic-rename off
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 9 # STATUSBAR STYLE
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11 set-option -g status-bg colour236
12 set-option -g status-fg colour166
13 setw -g window-status-current-format "#I:#W#F"
14 setw -g window-status-current-fg colour215
15
16 #left
17 set-option -g status-left ''
18 set-option -g status-left-length 0
19
20 #right
21 set-option -g status-right "#h [%Y-%m-%d %H:%M]"
```

Configuration - set

tmux - share session

❑ Both side can edit and execute commands

Reference

❑ tmux (1)

❑ tmux shortcuts & cheatsheet

- https://gist.github.com/MohamedAlaa/2961058

❑ tmux brief introduction (chinese)

- https://5xruby.tw/posts/tmux/

Appendix: tmux v.s. screen

	tmux	screen
window split	top-down & left-right	top-down only (default)
	different sessions can have different schemes	scheme must shared by all sessions
session	switch between sessions without detach	detach first then re-attach another session
	multiple clients can attach to same session	one session for one client only (force detach)
profile	.tmux.conf	.screenrc
	highly customizable	less than tmux